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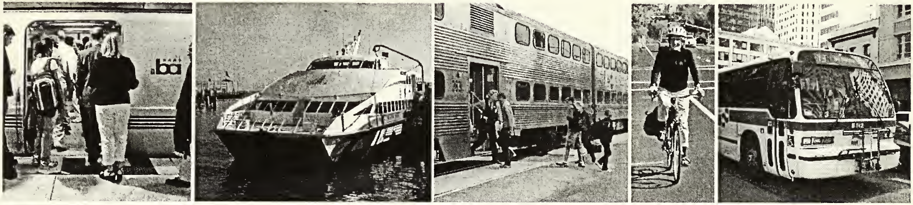

MTC TRANSIT CONNECTIVITY STUDY

Wilbur Smith Associates
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February 3, 2006

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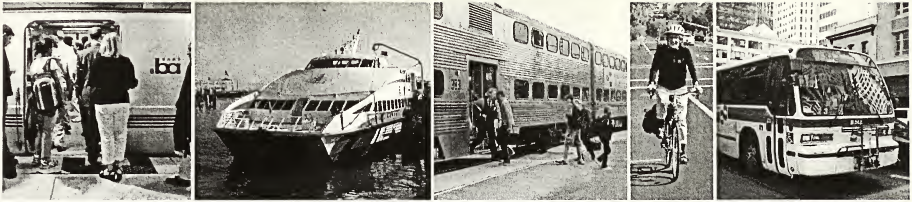

TECHNICAL PAPERS

Technical Memorandum 1 - Review of Other Planning Efforts

Technical Memorandum 2 - Define a Regional Network of Transit Hubs

Technical Memorandum 3A – Results of the Prototype Transit Hub Site Reviews

Technical Memorandum 3B – Customer Research Summary Report

Technical Memorandum 4 – Proposed Regional Wayfinding Signage Program

Technical Memorandum 7 – Plan for Last Mile Connecting Services

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Technical Memorandum 5 and 6, and the Connectivity "Toolbox" are to be provided by 2/17/06.

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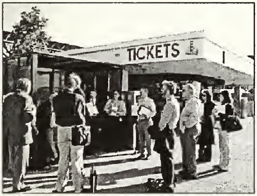
MTC Transit Connectivity Study

Technical Memorandum 1
Review of Other Planning Efforts



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July 25, 2005

Technical Memorandum #1
REVIEW OF OTHER PLANNING EFFORTS

The purpose of Task 1 of MTC's Regional Measure 2 Transit Connectivity Study is to identify, review, and summarize local, regional or state sponsored plans, studies and/or other technical resources currently underway or recently completed that could contribute to, and inform this planning effort. The Consultant Team has coordinated with MTC and the members of the Connectivity Working Group to identify and gather the relevant studies and information sources discussed in this Technical Memorandum. The intent of this task is to identify current or recently completed information which address the issues of customer satisfaction and convenience with the regional transit network and information services.

Each information source has been reviewed for completeness and relevance to the overall connectivity effort. Following this review, an overall assessment of the adequacy of the available data is provided along with recommendations as to the types of data which should be collected as part of this study.

RELATED PLANNING EFFORTS

Each of the relevant planning efforts that have been identified as part of the Task 1 effort are identified and summarized below. The applicability of the information to the Connectivity Study is also addressed in each case.

Many of the past and ongoing planning efforts are not directly related to this project, as connectivity was not the primary objective of these efforts. While access studies and station area plans have been performed at many of the major regional transit hubs, the focus of these efforts tends to be more on the quality of access to and from the hub from the surrounding area, rather than on the connectivity of the transit services at the hub itself.

The review of the available studies reveals that there is very little information available which quantifies the amount of transferring activity occurring between transit operators at the regional transit hubs. BART has some information as to what percent of its riders transfer to another transit mode, but generally there is no information on the actual distribution of these transfers by special transit operation or route. BART has conducted transfer surveys that provide this information at a few of its stations. The VTA has performed an origin-destination survey which provides some information by inference as to how and where passengers transfer during their trips on the transit network.

Of particular applicability to this Transit Connectivity Study are:

- *MTC Transit Connectivity Report of 2005*
- *BART Station Access Guidelines*
- *BART Station Access Plans*
- *BART Wayfinding and Signage Standards*
- *WTA San Francisco Ferry Building Wayfinding Study*
- *Bay Area Clean Air Partnership (BayCAP) Shuttle Inventory Project*
- *RM-2 Real-time Transit Information Grant Program*

These efforts, and their applicability to this study, are described in more detail below:

MTC Transit Connectivity Report, Metropolitan Transportation Commission, January 2005

This report summarizes the initial planning effort conducted by MTC with the Connectivity Working Group as the precursor to the RM-2 Transit Connectivity Study. The report:

- identifies connectivity features that are in greatest need of improvement;
- identifies 19 priority connection locations or transit "hubs;"
- identifies best practices and models of how to implement improvements;
- recommends a series of steps to address connectivity gaps and barriers.

> Applicability: This report lays the groundwork to guide the RM-2 Transit Connectivity Study. It also establishes criteria for defining the characteristics of a regional transit hub, and for identifying the most significant hubs in the region.

BART Station Access Guidelines, BART, October 2003

This document presents specific guidelines for the provision and development of access at BART stations. It provides principles for guiding the provision of wayfinding, walking, connecting transit services, bicycle access/storage, drop-offs, and park-and-ride.

> Applicability: These guidelines include a number of connectivity related principles in terms of wayfinding and connections between transit modes. This information is directly applicable to the connectivity study. The wayfinding guidelines focus on the route the passenger must take between the train platform and their immediate destination in the station area. The guidelines establish wayfinding principles which relate to the directness and sense of security of the route. A key principle is that "Passengers should be able to quickly and easily orient themselves."

There is also a section of guidelines for access connections by rail, bus, and other transit. The principles stated in this section include:

- Platforms and bus stops should be in close proximity and enjoy safe access;
- Prioritize feeder transit service in order of transfer activity;
- Rail-to-rail connections should be short, direct, and convenient; and
- Provide a comfortable, safe waiting environment for intermodal transfers, including adequate information.

The report also presents discussion of guidelines for "Last Mile" connections involving the accommodation of taxis, shuttle, and car sharing programs.

BART Station Access Plans, BART, 2002 - 2004

These are a series of plans prepared by BART staff for most of the major BART stations. These plans include recommendations for transit connectivity improvements.

> Applicability: These plans are directly applicable to the connectivity program. Many of the recommendations address specific issues regarding the quality and convenience of modal transfers at the BART stations. The plans also represent a good model for a comprehensive evaluation of a transit hub. The plans provide the following types of information:

- A summary of existing conditions at the station including data on ridership, ridership characteristics, mode split, on going access activities, station area land use (existing and future), station area demographics, and programmed capital improvements.
- The results of an outreach process which included internal coordination with other BART departments, contacts with the jurisdictions served by the station and meetings with the peer transit agencies providing connecting service to the BART station.
- An evaluation of the current characteristics of station access including the distribution of the origins and destinations of all trips through the station by mode.
- The access mode evaluation is then used to identify deficiencies in current transit access to and from the station and to define opportunities to make improvements.
- Recommendations and conclusions are provided as to the specific access improvements which would best address the problems and opportunities resulting from the access evaluation process.
- Mode share targets are established to improve the mode share by reducing the drive-alone auto share through the access improvement program. These targets provide a benchmark for measuring performance over a five-year and ten-year period.
- A matrix of recommended access improvements is defined, identifying the project by access category and defining the agency responsible for implementation as well as the funding source.

BART staff indicates that in terms of issues of transit connectivity, the access plans have resulted in modifications to the location and design of bus berthing areas at the stations, changes to the routes and schedules designed to increase ridership, and improved communications between BART and the transit operators in addressing station related issues.

BART Wayfinding and Signage Standards, BART, 2004

The architecture group at BART has developed a standard for wayfinding and signage throughout its system. These standards were developed as a formal input to the Valley Transportation Authority (VTA) in Santa Clara County. The VTA will be responsible for the design and construction of the BART extension to San Jose. BART developed the wayfinding standards to assure the future new stations in Santa Clara County would include wayfinding and signage that was consistent with BART practices and would reflect the lessons learned from BART's experience with other recent new station construction.

Applicability: These standards do not involve a major departure from current BART wayfinding and signage practices. They clearly define BART's approach to wayfinding and signage and are a useful guide for developing improved wayfinding and signage programs such as those called for as part of the connectivity project.

Because so many of the major regional transit hubs are at BART stations, these standards should serve as a starting point for developing the regional wayfinding and signage program. The standards consist of two reports: *Architectural Standards*, and *Wayfinding and Signage Guidelines*. Of particular use and interest are the following sections of the guidelines report:

- Purposes of Wayfinding and Signage
- Design Principles - Wayfinding
- Design Principles - Signage

For example, the design principles address such issues as sign visibility, decision points, redundancy, and the hierarchy of placement. The architectural standards emphasize the consistent use of symbols, logos, and visual patterns from one signage component to the next, and minimize the use of word and text.

San Francisco Ferry Building Wayfinding Study, Water Transportation Authority (WTA), 2005

The WTA recently completed a wayfinding study for the Ferry Building and is in the process of developing a wayfinding and signage program for application at all Bay Area ferry terminals. An important opportunity exists to closely coordinate with WTA staff as they develop their program, to ensure consistency with the regional wayfinding standards that are developed through this project.

> Applicability: The ferry building wayfinding study provides an excellent example of how to develop a wayfinding and signage program for a specific transit hub. The study documents the procedures and process uses to developing a overall wayfinding and signage strategy, and then details how the strategy would be implemented in terms of the types and locations of the various signs and information pieces. Elements of this work provide a good starting point for a regional transit wayfinding toolbox that can be applied to any of the regional transit hubs.

Bay Area Clean Air Partnership (BayCAP) Shuttle Inventory Project, 2004

This is an ongoing effort that provides an inventory of the Bay Area's shuttle programs and some information on costs, ridership, management, key issues and best practices. The BayCAP working group meets quarterly to share information and share common goals of advancing new shuttle services.

> Applicability: Shuttle services are a key element of the "Last Mile" program element of the RM-2 Transit Connectivity Project. This project is the only comprehensive inventory of shuttle services for the entire Bay Area. BART, VTA and Caltrain have completed shuttle inventories specific to their respective service areas. The Bay Group has been briefed on the purpose and status of the Transit Connectivity Study. They will be given the opportunity to review the Transit Connectivity Study findings and provide comments on the study recommendations. This will be particularly helpful in developing the recommendations for "Last Mile" Connections.

RM2 Real-time Transit Information Grant Program, MTC, 2005

The RM-2 program provides $20 million for a competitive grant program to assist transit operators in implementing high-technology systems to disseminate real-time transit arrival information to the general public via 511 phone, 511 website, transit-stop signage, and other innovative dissemination mechanisms. Project applications were submitted March 23, 2005. Applicants must have an existing Automated Vehicle Location (AVL) system. Projects are expected to be approved in July 2005. Project recipients will be expected to comply with any recommended standards that are developed through this planning effort.

> Applicability: Real-time transit information programs represent a new way for the transit operators to communicate with their customers. There is broad interest and financial support to implement these programs at the major regional transit hubs. The Transit Connectivity Project can support these efforts in providing insight and guidance as to which types of real-time information displays and devices are preferred by the customers, and when and where is best to provide access to this type of information.

OTHER RELATED PLANNING EFFORTS

BART Station Area Plans – BART

These include station area plans, specific plans, transit village plans and other station area efforts. The stations covered include Richmond, El Cerrito, El Cerrito del Norte, Coliseum/Airport, Millbrae, West Oakland, Fruitvale, Pittsburg/Bay Point, Union City, Glen Park and Balboa Park. Currently station area plans are underway for Lake Merritt, Hayward and Daly City.

> Applicability: These plans focus mainly on the land uses and linkages around the station site, but they do include consideration of elements related to connectivity. They provide a vision of the potential future character of the station and it surroundings.

BART Station Access Monitoring Program – BART

This is an ongoing program that provides a database of access characteristics and performance for all BART stations. The database includes an inventory of all the access facilities available at each station, such as parking spaces by type, bicycle storage, bus berths and loading areas, taxi stands, and other special access provisions. The database also includes ridership and access mode usage data. The information is updated periodically. The program includes special bus transfer activity studies at key stations.

> Applicability: The access database provides an inventory of all connecting transit services and shuttles at each BART station. It also provides a broad spectrum of information regarding the availability and usage of parking, bicycle, and other access related facilities at each station. The special bus transfer surveys are a good example of an effective way to understand the characteristics of passenger movements between transit modes, services, and operators at a major transit hub.

Caltrain Strategic Plan 2003-2004, Caltrain

This document includes recommendations for station access and environment improvements.

> Applicability: This plan provides a vision of Caltrain's long term plans relative to station access and modal connections.

Solano Transportation Authority I-80, I-680 and I-780 Transit Corridor Study, Wilbur Smith Associates, June 2004

This study recommends improvements to existing transit hubs, transit connectivity improvements, and other transit/HOV improvements as part of the overall program to improve these major highway corridors.

> Applicability: This report recommends improvements to the Vallejo Ferry Terminal and Fairfield Transportation Center hubs, which are two of the 20 regional hubs identified for study in this project. The guidelines and principles for connectivity improvements outlined in this study have general application to the regional connectivity project.

DATA AVAILABILITY AND NEEDS

The review of the existing reports, studies, and on-going planning efforts with a relationship to the issue of transit connectivity indicates that there is not a lot of work available that is directly applicable to the needs of this project. The following table provides a summary of the types of data needed to review and evaluate the connectivity of a given transit hub. The current availability of the data is identified and the plan to collect the data as part of this study for each of the prototype transit hubs is also defined.

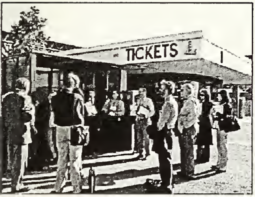
Summary of Connectivity Data Availability

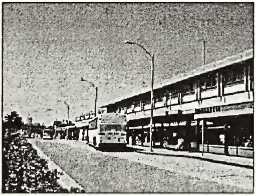
Topic/Data Type	Types of Information	Availability	Data to be Collected
Transit Usage	• Transit Ridership Data • Transfer Activity • Origin/Destination Data	BART has the most well developed database; otherwise while most operators have ridership counts, very little transfer activity data is available.	Will obtain all available data from the operators.
Wayfinding & Signage	• Standards or Design Guidelines • Sign Inventory	BART and the WTA have wayfinding standards. Inventories are generally not available.	Will photo-log samples of wayfinding practices at the prototype hubs.
Customer Use of Transit Information	• Inventory of transit information displays/maps	Not available.	Will document the types of information available.
Physical Connections	• Site layout plans	Generally available in varying formats and level of detail.	Will obtain copies as available for each hub.
Amenities	• Facilities Inventory	BART has a complete inventory, others may have some information.	Will obtain available inventory and will conduct on-site review.
Scheduling	• Current route descriptions, timetables, and service hours	Available from each operator.	Will obtain current data from each operator.
Real-Time Information	• Inventory of equipment • Equipment Specifications • Proposed future plans	Available from each operator.	Will obtain current information and plans.
Last Mile Service	• Inventory of available shuttle, taxi, car sharing, and other services	BayCAP provides the most complete inventory.	Will conduct research at each transit hub.

MTC Transit Connectivity Study

Technical Memorandum 2

Define a Regional Network of Transit Hubs





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July 26, 2005

Technical Memorandum #2
DEFINE A REGIONAL NETWORK OF TRANSIT HUBS

The purpose of Task 2 of MTC's Regional Measure 2 Transit Connectivity Study is to define a regional network of transit hubs. Specifically, the work scope for this study called for a review of the recommendations from the 2004 MTC Transit Connectivity Study. The 2004 Study recommended the establishment of a regional network of transit hubs.

REVIEW OF THE 2004 STUDY RECOMMENDATIONS

The 2004 study identified a preliminary list of 19 interagency transfer hubs. These 19 hubs were selected, based on their current functionality as interagency transfer locations, from an inventory of the more than 100 Bay Area rail, bus and ferry stations. The process used to select the 19 hubs involved two steps:

- Step 1: **Initial Selection**
  1. Station/center connects three or more transit services OR
  2. Station/center shows an above-average interagency connecting transit mode share OR
  3. Station/center is the most important transit center in a county or subregion, as defined by local transit agencies
- Step 2: **Quantitative Screening**
  4. Volume of service as indicated by number of buses, trains or ferries per day
  5. Volume of service as indicated by number of rail boardings per day

The purpose of this selection process was to identify, from the long list of over 100 transit stations, those hubs which were truly regional in terms of the linkages they provide between the services of the transit operators. The selected hubs were intended to include those which provide connections between several different service operators, those which had very high levels of transferring between the services of different operators and those that have a prominent geographic or strategic location in a particular county or subregion.

The consultant team for this study reviewed the selection process and the recommendations of the 2004 effort. Generally the review confirmed the findings of the earlier study with a few exceptions:

- Criteria #2 in step 1 of the initial selection process could not truly employed, as the transit mode share data required is not available for many of the hubs.
- Criteria #5 in step 2 of the quantitative screening had to be limited to rail boardings, again because of data availability. Hubs with major bus activity could be overlooked using this criterion.
- In addition to the criteria used in the process, it was determined that adding a new criteria which related to the ability of the hub to operate as a pulsed, or timed-transfer operation would be useful.

Table 1 on the following page summarizes the review of the transit hubs. The table shows all of the hubs considered in the 2004 study. The first column next to the list of hub sites indicates the 19 hubs which were selected using the two step review process outlined above. The second column indicates the number of operators or services currently providing service at each of the hubs. The next columns list the existing number of transit vehicles (or trains) during the AM peak period, and then the daily entries and exits (rail passengers only) for each hub. The final two columns identify which county in which each hub is located and whether or not the hub is a candidate for a pulsed operation. Pulsed or timed transfers work best when the services involved have headways greater than 15 minutes. Almost all of the hubs had some opportunity for a timed transfer. The transfer would typically involve an infrequent regional bus service being scheduled to arrive/depart in concert with the regional rail/or bus services at the hub. Some of the hubs, such has the San Rafael Transit Center, already have a timed transfer operation.

Table 1
Summary of Regional Hub Evaluation
(Adapted from the 2004 MTC Transit Connectivity Study)

Station Center	Sept 2004 Selected?[1]	Number of Services	AM Peak Vehicles	Daily Entries/Exits[2]	County	Potential for Pulse?
Dublin/Pleasanton BART	X	5	171	7527	Alameda	Yes
MacArthur BART		3	300	16230	Alameda	Yes
Coliseum Oakland Airport BART		3	232	8277	Alameda	Yes
Fremont BART	X	3	179	9028	Alameda	Yes
Fremont ACE/Amtrak		3	39	756	Alameda	
12th St. Oakland BART	X	2	479	26830	Alameda	
Pleasant Hill BART	X	5	169	11633	Conta Costa	Yes
El Cerrito Del Norte BART	X	5	280	19013	Contra Costa	Yes
Richmond BART/ Amtrak	X	4	132	7506	Contra Costa	Yes
San Rafael Transit Center	X	3	121		Marin	Yes
Embarcadero/Ferry Terminal	X	9	767	100756	San Francisco	Yes
Transbay Terminal/Montgomery	X	6	1152	64564	San Francisco	Yes
Civic Center BART	X	4	897	22774	San Francisco	Yes
4th & Townsend Caltrain	X	3	376	6848	San Francisco	Yes
Powell Street BART		2	1039	32717	San Francisco	
Hillsdale Caltrain		3	133	1783	San Mateo	
Millbrae	X	3	79	2112	San Mateo	Yes
San Jose Diridon	X	5	276	5822	Santa Clara	Yes
Palo Alto Caltrain	X	5	219	3466	Santa Clara	Yes
Santa Clara		4	105	4065	Santa Clara	
Great America	X	4	104	1180	Santa Clara	Yes
MountainView	X	4	87	3199	Santa Clara	Yes
Vallejo Ferry Terminal	X	3	88		Solano	Yes
Suisun Amtrak		3	22	308	Solano	
Fairfield Transportation Center		2	77		Solano	Yes
Santa Rosa Transit Center	X	5	196		Sonoma	Yes
Napa Transit Center		2	86		Napa	Yes

Notes: 1 Hub's marked with an "X" were those selected in the 2004 MTC Transit Connectivity Study
2 - Rail Passengers Only - Data was developed from MTC model runs developed to support the RTP.

Wilbur Smith Associates 4/20/2005

The shaded rows in the table represent the hubs that the review indicated should be included in the study. The San Francisco Ferry Terminal and the Embarcadero BART Station were combined into a single hub. The same was done with the Transbay Terminal and the Montgomery BART Station. This is because, from a users' viewpoint and an operational perspective, these hub pairs function as a single combined hub. The Coliseum Airport BART Station was added because it has three services rather than the two indicated in the 2004 study. The Napa Transit Center was added as it is a good example of a bus-only transit hub, typical of many suburban transit centers, and it is the largest hub in Napa County. By adding this hub there would be at least one transit hub in each of the nine Bay Area counties. The final hub that was added to the list was the Fairfield Transportation Center. This hub has two primary operations, Fairfield-Suisun and Vallejo Transit, and occasional service by a third operator, Rio Vista Transit. It is another good example of a suburban, all-bus transit hub.

The resulting list of 21 transit hubs is presented in Table 2 on the following pages. This table categorizes the 21 selected hubs from Table 1 by county, transit modes served, operators, type of hub, and any special features or comments. The purpose of this summary and comparison was to assist with the selection of the five prototype hubs that will be considered in the initial step of the hub evaluation process (Task 3). The five hubs that were selected as the prototypes are shaded in the table. Those hubs that are slated for future reconstruction; Transbay Terminal, Napa Transportation Center, Vallejo Ferry Terminal, and the Coliseum Airport BART Station, were excluded as candidates for the prototype evaluation. The rationale for this was that if the hub is slated for reconstruction it is unlikely that any significant investment would be made to improve the hub in the short-term.

Table 3 summarizes the rationale for the selection of the five prototype hubs, identifying each hub and reasons for their selection. The table also provides a grouping of the hubs by major type which shows how the recommendations developed for the prototype hubs could reasonably be extended to cover the other hubs within each type.

Table 2
BAY AREA TRANSIT HUBS AND OPERATORS

Transit Hub	County	Transit Modes	Operators	Type	Comments
1. Dublin/Pleasanton BART	Alameda	BART, Transit bus	BART, WHEELS, Amtrak buses, County Connection, Modesto Area Express/MAX, San Joaquin Regional Transit/ SMART	Suburban	---
2. Fremont BART	Alameda	BART, Transit Bus	BART, AC Transit, VTA	Suburban	---
3. Oakland 12th Street BART	Alameda	BART, Transit Bus	BART, AC Transit,	Downtown	---
4. Coliseum Oakland Airport BART	Alameda	BART, Transit Bus	BART AC Transit. AirBART	Urban	Future AGT Connection
5. Pleasant Hill BART	Contra Costa	BART, Transit Bus	BART, Benicia Transit, County Connection, Fairfield/Suisun, WHEELS	Suburban	---
6. El Cerrito Del Norte BART	Contra Costa	BART, Transit Bus	BART, AC Transit, Westcat, GGT, Vallejo	Urban	---
7. Richmond BART/Amtrak	Contra Costa	BART, Intercity Rail, Transit Bus	BART, AC Transit, GGT, Capitol. Corridor, San Joaquin	Urban	---
8. San Rafael Transit Center	Marin	Transit Bus, Intercity Bus, Airporter	GGT, Greyhound, Marin Sonoma, Airporters	Urban	Future SMART Streetcar
9. San Francisco Ferry Terminal & Embarcadero BART	San Francisco	BART, Ferry, Intercity Bus, LRT, Streetcar, Cable Car, Transit Bus	BART, GGT Bus & Ferry, Muni Bus, LRT & Streetcar, Vallejo, Alameda & Harbor Bay Ferries, Tiburon Ferry, Amtrak	Downtown	WTA Hub
10. Transbay Term. & Montgomery BART	San Francisco	BART, Intercity Bus, LRT, Transit Bus, Streetcar	BART, AC Transit, Greyhound, Muni, GGT, Samtrans	Downtown	Future Rebuild
11. Civic Center	San Francisco	BART, LRT Streetcar, Transit Bus	BART, Muni, GGT, Samtrans	Downtown	---
12. Caltrain Station 4th & Townsend	San Francisco	Commuter Rail, LRT, Streetcar, Transit Bus, Amtrak Bus	Caltrain, Muni, Samtrans, Amtrak Bus	Downtown	---
13. Millbrae BART	San Mateo	BART, Commuter, Rail, Transit Bus,	BART, Caltrans, Samtrans, shuttles	Suburban	

Table 2
BAY AREA TRANSIT HUBS AND OPERATORS

Transit Hub	County	Transit Modes	Operators	Type	Comments
		shuttles			
14. San Jose Diridon Station	Santa Clara	Commuter Rail, Amtrak, LRT, Bus	Caltrain, Capitols, Amtrak, Altamont Commuter Express (ACE), Valley Transportation Authority (VTA), Santa Clara Transit	Downtown	Sports Center
15. Palo Alto Station	Santa Clara	Commuter Rail, Transit Bus, shuttles	Caltrain, VTA, Samtrans, Dumbarton, shuttles	Urban	---
15. Great America	Santa Clara	Commuter Rail, LRT, Intercity Rail, shuttles	Capitol Corridor, ACE, VTA, shuttles	Suburban	---
17. Mountain View Station	Santa Clara	Commuter Rail, LRT, Transit Bus, shuttles	Caltrain, VTA, shuttles	Urban	---
18. Vallejo Ferry Terminal	Solano	Ferry, Transit Bus	Vallejo Ferry & Bus, Benicia Bus, Napa Bus	Urban	New RM2 Facility Planned
19. Santa Rosa Transit Center	Sonoma	Transit Bus, Airporters	Santa Rosa Transit & GGT, Sonoma County, Mendocino	Suburban	---
20. Napa Intermodal	Napa	Transit Bus	Napa Transit	Suburban	New Facility Planned
21. Fairfield Transportation Center	Solano	Transit Bus	Fairfield-Suisun, Vallejo	Suburban	Occasional service by Rio Vista Transit

Table 2
BAY AREA TRANSIT HUBS AND OPERATORS

Transit Hub	County	Transit Modes	Operators	Type	Comments
Total for all Hubs	4 Alameda 3 Contra Costa 1 Marin 4 San Francisco 1 San Mateo 4 Santa Clara 2 Solano 1 Sonoma 1 Napa	BART 10 Rail 8 LRT 7 Bus 21 Ferry 2 Cable Car 1	Amtrak-1 AC Transit- 5 ACE- 2 BART-10 Benicia- 1 Capitol Corridor- 3 County Connector- 2 Fairfield-Suisun - 1 Golden Gate- 7 LAVTA- 1 San Joaquin- 1 Westcat- 1 VTA- 5 Vallejo- 3	Downtown 6 Urban 6 Suburban 7	Rebuilds Planned 4

Table 3
RATIONALE FOR PROTOTYPE HUB SELECTION

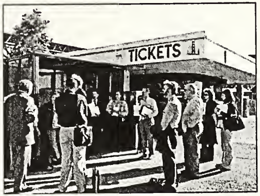
San Francisco Ferry Terminal/ Embarcadero BART	San Jose Diridon Station	San Rafael Transit Center	El Cerrito del Norte BART Station	Dublin/Pleasanton BART Station
• Ferry Mode Representative • Most Transit Operators • Paired Hub: Ferry Terminal, BART Station • Represents San Francisco	• Largest South Bay hub • Hosts Caltrain, ACE, Amtrak & Capitol corridor along with bus and LRT • Adjacent to Sport Center	• North Bay hub • Represents an all bus facility	• Multi-operator hub: AC Transit, GGT, WestCAT, Vallejo • Has HOV ramp access to I-80 • Along San Pablo BRT • Contra Costa County hub	• Suburban hub • Alameda County • Relatively recent design

Type A Urban Hubs Buses Loaded On-street	Type B Urban Hubs Off-street Loading	Type C Bus Only Hubs	Type D BART with Off-street Bus Loading
1. Oakland 12th Street 2. S.F. Ferry Terminal /Embarcadero BART 3. Civic Center BART 4. Caltrain 4th St. & Townsend 5. Vallejo Ferry	1. Transbay Terminal/ Montgomery BART 2. Diridon Station 3. Palo Alto Caltrain 4. Mountain View Caltrain 5. Great America Caltrain	1. San Rafael 2. Santa Rosa 3. Napa 4. Fairfield	1. Dublin/Pleasanton BART 2. Fremont BART 3. Coliseum/Airport BART 4. Pleasant Hill BART 5. El Cerrito del Norte BART 6. Richmond BART 7. Millbrae BART/Caltrain

MTC Transit Connectivity Study

Technical Memorandum 3A

Results of the Prototype Transit Hub Site Reviews



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July 13, 2005

INTRODUCTION

This technical memorandum presents the preliminary findings of the prototype transit hub site reviews conducted in Task 3. Five transit hubs were identified for this evaluation from the network of regional transit hubs developed in Task 2. The original Transit Connectivity Study conducted by MTC identified the 18 most significant transit hubs in the region. In Task 2, the consultant team reviewed this list and the methodology used to select the hubs, and suggested revisions based on that review. The final network of regional transit hubs was expanded to include a total of 21 hubs, selecting at least one hub in each of the 9 Bay Area Counties. The prototype hubs were selected to represent different geographic areas of the region, to represent various location types (i.e. urban, suburban and downtown) and to represent each of the four transit hub types identified during the process, including:

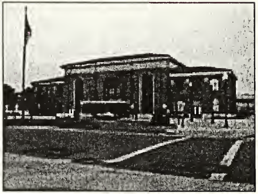
- Type A: Urban Hubs Buses Loaded On-street
- Type B: Urban Hubs Off-street Loading:
- Type C: Bus Only Hubs
- Type D: BART with Off-street Bus Loading

The five selected prototype stations are:

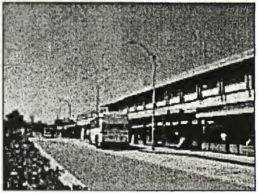
- San Rafael Transit Center (Type C);
- San Jose Diridon Station (Type B);
- El Cerrito Del Norte BART Station (Type D);
- San Francisco Ferry Terminal/Embarcadero BART Station (Type A); and
- Dublin/Pleasanton BART Station (Type D).

An evaluation of each of the five prototype hubs will be conducted to ascertain its current usefulness as a transit hub, and to confirm, from a customer's point of view, perceived deficiencies and opportunities for improvement. The evaluation will consist of the following steps:

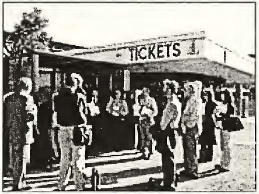
- Establishing a local hub task force of technical staff from the transit providers that serve the hub as well as staff from the jurisdiction(s) where the hub is located and representatives of other key stakeholders such as property owners, local social service or special interest groups, and advocacy groups.
- Conducting an on-site inventory of the transit hub to quantify its current characteristics.
- Conducting a site review with the hub task force to review current conditions, review and identify problems and opportunities and develop recommendations.



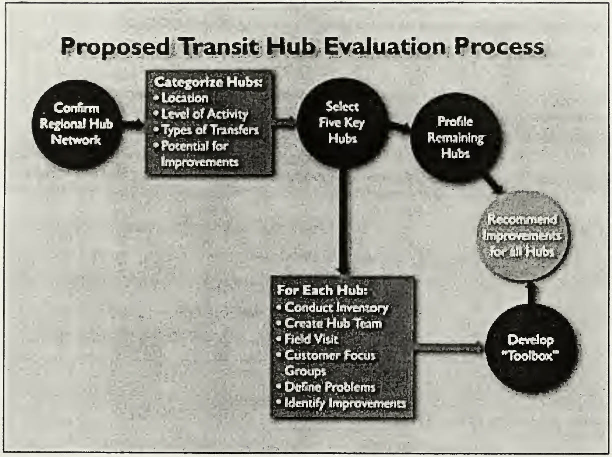
San Jose Diridon Station



El Cerrito del Norte BART Station



Task Force at San Francisco Ferry Terminal



Proposed Transit Hub Evaluation Process

Confirm Regional Hub Network

Categorize Hubs:
- Location
- Level of Activity
- Types of Transfers
- Potential for Improvements

Select Five Key Hubs

Profile Remaining Hubs

Recommend Improvements for all Hubs

For Each Hub:
- Conduct Inventory
- Create Hub Team
- Field Visit
- Customer Focus Groups
- Define Problems
- Identify Improvements

Develop "Toolbox"

- Convening a customer focus group consisting of persons who use or could use the hub for their normal travel to solicit their opinions, experiences, perceptions, preferences and priorities related to all aspects of their use of their target hub site.
- Developing recommended connectivity improvements for each of the prototype hubs. Based on these findings, the consultant team will assemble a "Connectivity Toolbox, which is intended to provide strategies and solutions to address problem areas identified during the evaluations. The toolbox, in turn, can also include guidelines as to how each improvement would be specifically developed and refined for application at other similar transit hubs throughout the region.

As mentioned above, this technical memorandum presents the preliminary findings of the prototype transit hub site reviews. These preliminary findings will be used in part to guide the development of materials for the focus group meetings and, in conjunction with the results of the focus groups as well as consultation with other stakeholder groups, will be used to formulate recommended connectivity improvements. It is important to note that the thrust of this effort is to gain an understanding of the customer's perceptions of the quality of the hub operations and layout. The recommendations for each of the hubs and the connectivity toolbox will not be formalized until the customer research and other related elements of the project are complete. The format of the site reviews is described below.

METHODOLOGY FOR PROTOTYPE TRANSIT HUB SITE REVIEWS

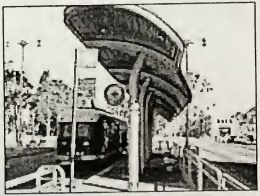
For each of the prototypes, a transit hub task force was created including representatives of the transit and shuttle operators at the hub as well as other key stakeholders for that location. A task force site review was scheduled at each transit hub in the months of May and June, 2005, during the AM peak hours of operation (7 - 9 AM).

Each site review began with a short briefing on the project and a general discussion of how transit services operate at the station. Each participant was asked to provide a brief description of operations and issues related to the agency they represent. This discussion was followed by a 'walk about' to observe first hand how the facility operates both for transit operators and passengers. The 'walk about' focused on issues concerning the following topics:

- Wayfinding Signage - Wayfinding signage provides a critical informational link for transit passengers to help them navigate their way to and from a stop or station. It also provides needed information for circulation within the transit facility to enable them to make a transfer from one operator to another.
- Customer Use of Transit Information - Transit information, both local and regional, provides needed routing and schedule information for the passenger to make connections to their desired destination. Accurate information is especially important when transferring between transit operators. Regional transit information is available from maps, schedules and brochures which can be posted in the transit hub itself. Pre-trip planning information is also available from '511' either by phone or via the internet at 511.org.
- Physical Connections - The physical layout of a transit hub will affect how the facility operates and how successfully it can provide transit service and connectivity. This topic will consider various issues from how buses enter and exit a station to how passengers transfer from bus to rail platforms.
- Amenities - The process of identifying connectivity related improvement is likely to also identify other types of desirable improvements such as weather protection, security personnel and related equipment, restrooms, street furniture and additional service information by audio announcements. Opportunities to purchase transit tickets or passes and other retail vendors selling snacks, flowers, newspapers or dry cleaning services are also included.
- Scheduling - The coordination of connecting transit services is an important issue in the study of transit connectivity. Perceived or real disconnects in scheduling is a major source of customer dissatisfaction. The dynamics and economics of transit operation make seamless time-coordinated transfers difficult to achieve. However, through the use of technology and

San Rafael Transit Center

Bus platform at Dublin/Pleasanton BART Station

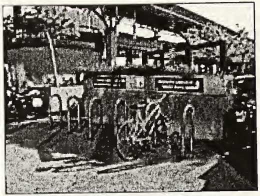


Muni 'F' Line platform at San Francisco Ferry Terminal/Embarcadero Station improved operating practices and policies, it is possible to enhance the connectivity of system-to-system transfers.

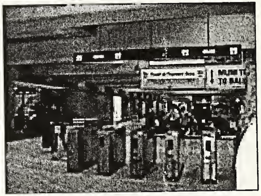
- **Real-Time Transit Information** - Real-time transit information allows customers to know exactly when their next bus or train is arriving or departing. This tool is an important component of the Bay Area transit connectivity. Providing real-time and accurate transit information can not only enhance transit usage, but can also provide a more accurate means for the public to review transportation alternatives in the area, which could result in mode shifts to public transportation.
- **The 'Last Mile'** - Many transit trips are not made because of the lack of a convenient linkage to travel destinations beyond walking distance, but relatively close to the transit hub location. The "Last Mile" service concept looks at ways to bridge this gap in the transit network. As the missing link, the "last mile" service can be provided by any combination of bus, shuttle, bicycle, pedestrian, taxi, guaranteed ride home, electric commute alternatives and station cars and car sharing.

Following the 'walk about', Task Force members reconvened at a nearby meeting location for a debriefing session to summarize observed problems, determine needs for improved connectivity and discuss preliminary potential solutions. This technical memorandum presents the preliminary findings of the transit hub task force site reviews. Each observed issue or problem is followed by a description of the needs for improved transit connectivity. These problems and needs will be explored further in the focus group discussions and further technical reviews to develop recommended connectivity improvements.

A summary of the key findings emerging from the site evaluations is described below. Preliminary findings specific to each site are included as Appendix A and maps of the transit hubs are included in Appendix B to this technical memorandum.



Bicycle Parking at Ferry Terminal



Embarcadero Bikestation (behind faregates)

SUMMARY OF KEY FINDINGS

Perhaps the most significant finding of the prototype transit hub site reviews was the realization of how interconnected the many issues are to enhance transit connectivity. For example, if bus service is kept simple, operating on regular headways throughout the day, passengers will find it easier to become familiar with bus schedules, and the challenge of providing complicated daily schedules can be reduced. The assignment of bus routes to corresponding bus bays in an intuitive way also can simplify wayfinding needs and minimize dwell times necessary for bus transfers. The provision of amenities can enhance a passenger's comfort and convenience while waiting for a transit connection, and effective scheduling practices can reduce the time the passenger must wait for the transfer.

The connectivity problems, needs and possible improvement measures that have been identified from the hub site reviews are considered preliminary, and will be further defined and prioritized during upcoming passenger focus groups, as well as reviewed with other stakeholder groups.

Wayfinding Signage

The field review of the five prototype hubs uncovered certain common wayfinding signage deficiencies and problems, regardless of the type of interagency service connections or hub physical conditions. The field evaluation comments and observations identify problems as well as connectivity needs and potential "ideas" for improvement to facilitate connections. Key preliminary findings by those participating in the hub evaluations are summarized below.

- **Better identification of the hub facility** - Better hub facility identification should improve connection wayfinding by making the entrance to the service (via pedestrian or vehicle) more conspicuous and promoting awareness of the presence of transit within the community or urban setting. The use of the service logos, BART, Muni, Golden Gate Transit, AC Transit, etc., would reinforce the branding and identity of each service. Entrance signs could incorporate the localized bus service under the heading of the primary regional transit service at each hub – to promote awareness of multiple transit services available at some hubs.
- **Better wayfinding signage within hubs** - One way to make the transferring experience less confusing is to simply provide better wayfinding signage within the hub to the service choices available. This need was observed as all the transit hubs visited but is particularly important for guidance between transit modes such as at the San Francisco Ferry Terminal/Embarcadero Station for connections between ferry, bus, BART, Muni Metro and cable car. San Jose Diridon Station has similar needs for connections between rail and bus and at El Cerrito del Norte BART and Dublin/Pleasanton BART for connections between BART and bus. Even at the San Rafael Transit Center, limited to bus-to-bus connections, better directional signage between the platforms is

Muni Cable Car terminus and loading zone

Amtrak Thruway bus at San Francisco Ferry Terminal

J K L M N
MUNI ONL

Muni Next Train Signage at Agent's Booth needed to guide transferring passengers to the correct platform and route. The use of service logos would greatly enhance the generic messages currently used on many of the signs.

- Bus stop signage - In the suburban BART stations, better guidance to the respective connection bus stops would be helpful. While some stations, e.g., BART El Cerrito del Norte, have diagrams (with magnetic strips identifying bus stops), these maps are often incomplete or confusing and the customers may find it difficult to orient themselves to the outside configuration of the bus bay/stops.

  The problem of finding the connecting bus stop is much more complex in an urban setting, where the bus stop location is not always obvious and blends into the streetscape. Here the customer is primarily dependent upon wayfinding signage. Fortunately, in the Ferry Terminal/Embarcadero Station hub, there appears to be an opportunity to integrate directions to Muni (and other) stops, utilizing the existing city pedestrian wayfinding signage system.

- Better identification of bus stops - The use of service logos and colors would help distinguish various bus services at hubs and in downtown San Francisco. In this way, the bus stop signs will reinforce the vehicle identification and service identity colors making them easier to find. This principle of wayfinding has been successfully utilized in the corporate and commercial field for years, e.g., rental car companies often use their logos on airport wayfinding signage.

Customer Use of Transit Information

The field site visits revealed a number of issues specific to customer use of transit information located at the hubs. These are described below.

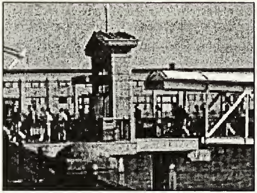
- On-site transit displays - Most transit hubs included displays of existing printed maps, schedules, and information about individual services, which the customer has to decipher. Generally the displays consist of maps that show a macro view, whereas the customer's immediate need may be more localized. Consideration should be given to the development of standards for the presentation of information, guidance that responds to the customer's wayfinding needs, and opportunities specific to each hub.

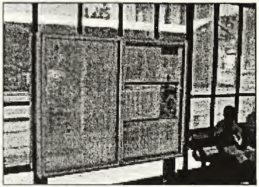
  — WHAT service do I use for the connection I need to reach my destination?

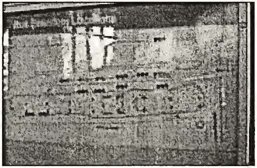
  — WHERE do I find the nearest stop?

  — HOW do I pay for the connecting service, when, and how much will it cost?

  — WHEN does the connecting service arrive?


Vallejo Ferry loading

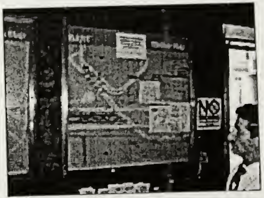

Regional transit information at San Rafael Transit Center


Bus boarding display at El Cerrito del Norte BART Station

The format of this information may vary between the hubs based upon transit connections specific to that hub. The information may be in the form of a destination locator matrix or a simplified map with alphabetized listing of points of interest and trip generators. At the Ferry Terminal/Embarcadero hub, for example, a special Visitor's Transit Map may be appropriate for indicating not only an alphabetized listing of common trip generators, including hotels, but also the Muni routes serving tourist destinations. These information aids must be easy to update and economical to produce.

- **Pre-trip planning information** – With the advent of '511', it is much easier to plan a transit trip in advance especially when using different transit operators. Use of '511' either by phone or on the internet at 511.org makes it possible to disseminate comprehensive regional transit information for all agencies and modes. The addition of transit hub maps to the '511' website would enable passengers to preview how to make connections at the transit hub. Although the '511' service is readily available from the home or office, connection to this information source was not provided at the transit hubs themselves.
- **"Real-Time" transit information displays** - The use of "real-time" transit information displays is a growing trend because customers appreciate the information these displays provide, and they reduce passenger anxiety about not knowing when the next bus, ferry or train will arrive or depart. For the connecting passenger, these displays would be even more useful if also deployed on-route between their connections, e.g., the BART passenger would know exactly when his Muni connection will arrive as soon as he exits the BART turnstile within the Embarcadero Station. Likewise, transit information provided directly on vehicles, particularly on ferry boats and trains, will allow passengers to preplan their needed connections and reduce the transfer time to their destination.

San Francisco Embarcadero Station
Muni Platform from main ticket level. BART is located one level below



Bus facility location map at Dublin/Pleasanton BART Station

Transit information at San Jose Diridon Station

Physical Connections

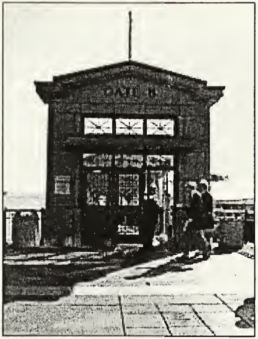
The five prototype transit hubs were selected because they represent the range of transit connectivity sites available in the San Francisco Bay Area, i.e. bus to bus, rail to bus, ferry to bus. In addition, they represent areas within downtown, urban and suburban development. Some of the transit hubs are compact; others are very spread-out. In general, the connections between similar transit modes, for example the San Rafael Transit Center with only bus service, are more convenient for the customer in that they require less distance to travel. Because of the facilities required to accommodate rail and ferry service, these connections require greater walking distances. Few similarities were identified respective to physical connections at the prototype transit hubs, largely due to the variety of facilities both from a design and operational standpoint. Those that were observed include:

- Bus circulation entering and exiting the stations could be improved to provide a more direct route thereby reducing travel times and streamlining schedules.

- Weather protection for traveling between loading areas often does not exist or is not expansive enough to provide adequate protection.

Amenities

Weather protection at bus, train and ferry loading areas often does not exist or is inadequate to protect against wind and driving rain. Weather protection between loading platforms often is not available making transfers from one mode to another or between bus platforms uncomfortable. Seating is often inadequate at transit stops. Audio announcements of bus and train arrivals and departures were made at some facilities although it was often difficult to hear and understand. Restrooms are available at all the transit hubs visited although the facilities at Embarcadero BART are currently closed for security reasons. Several of the transit hubs had booths to buy single-ride tickets and passes. Many hubs also had snack shops, flower stands, newspaper kiosks and a dry cleaner store.


Gate E for Tiburon and Vallejo Ferries

NextBus sign for AC Transit Route 72

Scheduling

At many transit stations, service is operated by more than one provider. Most providers run on a fixed schedule and with some on a "pulse" schedule, such as at the San Rafael Transit Center. With a pulse schedule, all buses arrive and depart at the transit hub at the same time to facilitate bus-to-bus transfers. It was found during the site reviews that many of the schedules do provide for timed-transfers even between different transit modes such as bus and rail. Because the transit services at a hub often operate at different headways, it is not always possible to coordinate the schedule of all routes and facilitate a timed-transfer. Long transfer walking distances at some hubs, such as Dublin/Pleasanton BART Station, also complicate efficient pulse operations. In addition, each provider is responsible for updating and maintaining their own schedules; agencies often make schedule updates at different times during the year. The process for establishing timed-transfers and updating schedules between operators and the role of '511' in this effort needs to be more fully explored. The following approaches may be useful to this process.

- Communication between operators is key to facilitating schedule coordination.
- Each transit agency should provide the agencies affected by their schedule changes with advance notice when making schedule changes.

Real-Time Information

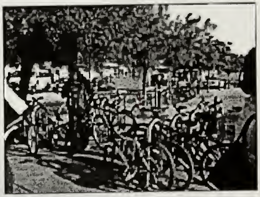
The goals of a real-time program are to provide real-time transit information to the public through a variety of dissemination methods, including 511 phone, 511.org, wireless devices, signage at rail and bus stations, and other innovative mechanisms, and to promote data sharing among transit agencies at transfer hubs to improve schedule coordination.

Currently, transit operators in the region are at varying stages of deploying technology to provide real-time transit data. Some operators have implemented Automatic Vehicle Location (AVL) systems, which can be a foundation for passenger information systems. Others have implemented technologies that generate vehicle arrival predictions without relying on AVL.

The Regional Traffic Relieve Plan was established as part of RM2 set aside $20 million for MTC to administer a Real-time Transit Information Grant program. Transit operators receiving RM2 funds are required to transmit their real-time data in a standard format to a regional database. Data will be available from the database for integration into 511 and 511.org for display on signs at transfer points and hubs, and to transit operators for connection protection or other coordination efforts. Recently, MTC staff completed its selection process and has recommended real-time funding be provided to 8 operators, contingent upon approval by the Commission. A goal of this project is to further define potential system enhancements and goals to fully develop a regional real-time transit information program.

Muni NextTrain map at Embarcadero Station

Real-time signs at ticket machines



Bicycle racks at San Rafael Transit Center

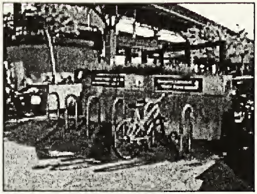
The 'Last Mile'

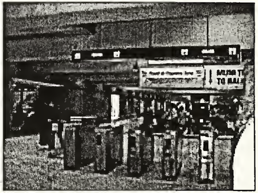
'Last Mile' opportunities at the prototype transit hubs are as varied as the stations themselves. However, many similarities were found during the field reviews in the need for 'last mile' improvements. 'Last Mile' connections differ from the other aspects of transit connectivity which have been previously discussed in that 'last mile' connections are often not under the sole purview of the transit agency or transit hub. For 'last mile' improvements to be implemented, collaboration will be needed between local businesses, government agencies, transit operators, funding agencies and non-profit advocacy groups. Local community planning processes will address 'last mile' connections to regional transit hubs in General Plans, downtown plans, or station-area planning documents. Last mile connections are also dynamic and evolving services, and often incorporate improvements utilizing new and innovative technologies as they become available. Many 'last mile' improvements have started as demonstration projects which, depending upon their success, have or have not been implemented at additional locations. The preliminary findings of the 'last mile' evaluation are summarized below.

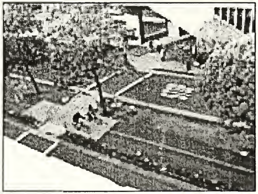
- Pedestrian links and pathways - Local maps that show major destinations such as downtowns and business, community and government centers are needed as well as wayfinding signage that links these locations to the transit hub. In addition, the pedestrian route out of the transit hub should be strengthened with some type of wayfinding signage; many stations are surrounded with a sea of parking and it is difficult to find surrounding roadways and destinations. Pedestrian safety and comfort levels are enhanced with adequate lighting, well-maintained sidewalks and pathways and ADA-compliant accessible routes.
- Bicycle parking, routes and pathways - Bike routes, lanes and pathways are needed on roadways leading to/from the transit hub. For passengers wishing to leave their bicycles at the station,

sufficient bicycle parking is needed utilizing racks, lockers, bikestation and/or other new technologies. Signage for direction to the bikeways and/or to bicycle parking is also necessary.

- **Taxi service** - Although, taxi service is available at each of the prototype transit hubs, additional signage to and at the taxi stop is needed. Taxis generally wait at the station during peak and midday hours but their availability may be more limited at night or during off-peak hours.
- **Shuttle services** - Shuttles are an important aspect of the 'last mile' connection providing convenient and direct service to desired destinations. Unfortunately, shuttles can be expensive to establish and operate and are generally funded by private organizations or through public funding programs. Shuttle connections with the transit hub should be supported with the display of shuttle schedules, routes and contact information. Expansion of shuttle programs should be coordinated with existing feeder bus resource deployment strategies. The location of many of the shuttle stops are not signed and often weather protection is not provided for waiting passengers.
- **Guaranteed ride home programs** - These programs are generally not operated by transit agencies but rather through transportation demand management (TDM) or congestion management programs (CMP) of local governments, employers or institutions. These programs allow flexibility to transit commuters by providing a ride home in case of illness, family emergency or overtime work demands. They are often implemented with the use of taxi service in conjunction with transit, and can provide a valuable last mile service opportunity.
- **Station cars and car sharing** - Car sharing programs are currently available at several BART stations including one location within several blocks of the San Francisco Ferry Terminal/Embarcadero Station transit hub. There are various car sharing type programs; with the program available at BART, program members can reserve a car by the hour for their personal use. The car is picked up and returned to the same location. Other programs share a car between two people with one driving to the station in the morning and back home at night while the other driver uses the car during the day instead of leaving it parked at the station.
- **Electric commute alternatives** - This 'last mile' opportunity includes new innovative technologies utilizing electric vehicles or other sustainable transportation including electric cars, electric shuttles, electric bikes, and electric scooters/segways. Currently there are not such programs available at the prototype transit hubs.


Bicycle Parking at Ferry Terminal


Embarcadero Bikestation (behind faregates)


Ohlone Greenway at El Cerrito del Norte Station

MTC Transit Connectivity Study

Technical Memorandum 3A:
Results of the Prototype Transit Hub Site Reviews

APPENDIX A

Summary of Key Findings

SAN RAFAEL TRANSIT CENTER
RESULTS OF THE PROTOTYPE TRANSIT HUB SITE REVIEW

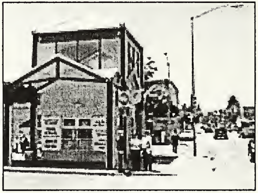
The transit hub task force site review was held on Thursday May 12, 2005 at 7 AM. Representatives from transit operators and key stakeholder agencies were invited to attend including:

Representatives from:	In attendance
Golden Gate Transit	Yes
Marin County Transit	Yes
Sonoma County Transit	No
City of San Rafael	Yes
County Shuttle Connection (County Health and Human Services)	Yes
Marin Airporter	No
Airport Express	No
Greyhound	No
Grassroots Leadership Network	No

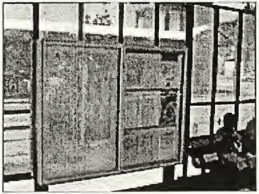
The site review began with a short briefing on the project and a general discussion of how transit services operated at the station. This prototypical hub is representative of a bus-only transit center. The facility provides service for buses and shuttles at four passenger platforms with 18 bus bays as shown in Appendix B, page B-1. Golden Gate Transit (GGT) provides local service within Marin County under contract to Marin County Transit District (MCTD), and regional service to Sonoma, Contra Costa and San Francisco Counties. GGT operates twenty routes through the Transit Center with many of these providing weekday commuter service only. Limited service is available during off-peak hours and weekends. GGT buses are scheduled to pulse at the Transit Center at 30-minute intervals at approximately 0:20 and 0:50 minutes past the hour. The outer edge of Platform A along Heatherton Street serves southbound GGT buses with the inner edge serving GGT buses to the East Bay and to the Canal District in San Rafael. Platform B serves local GGT buses. Platform C serves northbound GGT buses and Platform D serves all the non Golden Gate Transit service buses and shuttles as well as a few GGT bus routes.

Other transit service on Platform D is provided by Greyhound (3 buses a day), Sonoma County Transit, County Shuttle Connection and two airport shuttle services. Sonoma County Transit operates one commuter route to San Francisco each weekday from locations in Sonoma County including a stop at the San Rafael Transit Center. The County Shuttle Connection, which loads on the Tamalpais Avenue side of Platform D is operated by the Marin County Health and Human Services Department and provides service to the County Social Services Building. Marin Airporter provides service to San Francisco International Airport while the Sonoma County Airport Express shuttle serves Oakland Airport.

San Rafael Transit Center



No facility Identification



Displays utilize existing maps and timetables; customer has to figure out connections by wading through information

The facility has a security booth staffed by a security guard (located on Platform B), public restrooms, dry cleaner and coffee shop. GGT ticket books can be purchased at the ticket booth and tickets for the Oakland Airport shuttle are available at the dry cleaner shop.

The following problems or issues were identified during the site review. The associated needs for improved transit connectivity are also included.

Wayfinding Signage

The San Rafael Transit Center is not clearly identified as a major transit hub. Specifically, identification of the facility needs to be more prominent both from the street and for passengers entering by bus. The facility currently lacks a local map of San Rafael identifying key destinations with other route/scheduling information.

1. San Rafael Transit Center is not highly visible from surrounding roadways and land uses.
    - Signage identifying the facility as San Rafael Transit Center is not highly visible from surrounding roadways. Directional signs leading to transit center from key locations in the neighborhood are not provided.
2. The locations of respective loading areas for bus routes utilizing the facility are not clearly delineated.
    - Specifically, The transit center platform maps are difficult to locate, and, once found are difficult to read and quickly understand because of their small size. Platform designations (i.e. Platform A) are difficult to distinguish as the platform labels are mixed with route numbers. It is difficult to distinguish among different transit service providers.
3. Because the same routes load in different places depending upon direction of travel, it is confusing to find the correct loading bay and may result in a passenger traveling the wrong direction on the right bus.
    - Better distinction between some routes, and the fact that the northbound and southbound route stops are on different platforms, is needed. Perhaps the route terminal destination should be more distinctive and northbound/southbound should be included. The location of the loading zone for the opposite direction would also be helpful.
4. Passengers may be e unaware that multiple routes can deliver them to the same destinations. For example, several routes travel between San Rafael and Marin City including routes 70, 71, 80 and 36.; however, Some passengers may use only the bus with which they are most familiar.

Clearer platform identification is needed

Identification/directions to bus routes on adjacent platforms is not provided

Better operator identification is needed

- One timetable is needed for all routes with the same stops indicating that any of those routes may be taken. Signage to inform passengers that these routes travel to the same destinations and close proximity of loading platforms may also be helpful.

5. Signage, route and schedule information for Platform D is incomplete and not current. Specifically, operators utilizing Platform D are not clearly identified, and information for service to Oakland Airport is not provided at all.
6. The County Shuttle Connection stop is not identified and schedule information is difficult to find and is outdated.
7. Signage for operators no longer providing service (Santa Rosa Airporter) is still posted.
8. The location of a park-and-ride facility 3 blocks away is not identified.

Marin Airporter loading zone

Customer Use of Transit Information

1. Regional transit information is difficult to find, read and is not updated.
    - Regional transit schedules are not kept updated and information on how to obtain the most current information is not provided (i.e. '511' phone or information kiosk). A map of the transit center is not provided on the '511' website at 511.org with other schedule information. Maps showing the local and regional destinations are not available. Maps and schedules that are provided on Platform D are not organized, clearly presented, or current. Bi-lingual schedule information is not available at the boarding areas or on 511.org.
2. Fare information including where to purchase passes and tickets is not available. Although Golden Gate Transit is exploring more efficient and passenger friendly fare payment schemes, currently, on-site fare information is not available before boarding the buses.
3. Based upon a recent survey of bus riders conducted by the Marin County Transit District, 40% of survey respondents indicated they are Spanish-speaking; however, the provision of transit information at the transit center in Spanish is very limited.

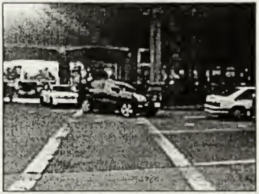
County Shuttle Connection

Enclosed station waiting room

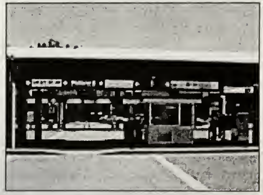
Physical Connections

The transit center is quite compact and busy, given that limited space is available to accommodate many uses. Future plans by Sonoma-Marin Area Rail Transit (SMART) consist of new commuter rail service with a station located between 3rd and 4th Streets, directly north of the transit center. Bus loading will continue at the transit center with additional bus loading at the rail station. The provision of rail service and development of the rail station will impact future operations. The new rail service is envisioned to begin roughly five years after voter passage of sales tax funding. Current issues include:

1. During the afternoon peak, arterials surrounding the transit center become quite congested and affect the bus' ability to exit/enter the facility. This especially impacts northbound buses. As a result, consideration should be given of a more direct northbound bus link. At present, northbound buses must use congested Irwin Street for access to Highway 101. It will be important to consider the use of existing rail right-of-way prior to the start of SMART rail service to from the transit center to Mission Street, thereby avoiding congestion on Irwin Street.
2. Private automobiles often illegally enter the bus transfer facility.
   - Bus-only signs at Third Street entrance are not readily visible and pavement markings to reinforce this signage are not used.
3. Bus loading capacity is limited because of limited bus curb lengths and pulse scheduling.
4. Passenger drop off area is not convenient or identified.
   - One-way streets surrounding the station make it difficult to use passenger drop-off area on Tamalpais Avenue; consequently cars use Hetherton Street and often block traffic and bus loading. Signs directing to drop-off area on Tamalpais Avenue are not provided.
5. Parking is remote and limited for park and ride patrons.


Heavy left turn movement from Third Street to Hetherton Street

DO NOT ENTER
BUSES ONLY
EXCEPT FOR PARKING
'Do Not Enter' at entrance to terminal


Bus platforms and security booth

Amenities

Amenities at the San Rafael Transit Center includes a café which also sells GGT tickets, a dry cleaners which sells tickets for Airport Express shuttle to Oakland Airport, and an indoor waiting room with restroom facilities. Bus stop shelters and canopies with limited seating are provided at the bus bays. A Translink add fare machine and GGT direct phone are also provided.

1. Passengers are not protected from inclement weather at crossings between platforms.
2. Seating capacity for passengers is not adequate.

3. Security at San Rafael Transit Center has been addressed in part with the addition of a security guard and booth. Personal safety may continue to be a concern for some patrons especially during evening and night hours.

Scheduling

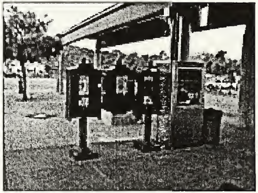
Currently, GGT operates on a 30-minute pulse with 5-minute dwell times except for Route 36. Similar pulse operates at Marin City. Route 36 operates at 30-minute headways but is scheduled at a 15-minute offset to the main pulse. Sonoma County Transit (SCT) operates one route daily on weekdays with southbound service in the AM peak and northbound service in the PM peak (Route 38) connecting Sonoma Valley to San Rafael Transit Center. It is closely coordinated for transfer to GGT Routes 26 and 80. The airport express shuttles do not specifically coordinate service with other buses and estimate that most of their patrons arrive and depart by car or taxi. Greyhound has only three buses daily to the transit center.

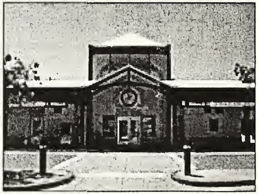
1. Because of the bus pulse schedule, the transit center is at maximum capacity. No more routes can be added without changes to the schedule.
2. GGT Routes 70/80 often operate above capacity leaving passengers behind. When this happens, backup buses are provided. Expanding service at peak times with buses offset to the pulse is being considered.
3. Congestion on Highway 101 complicates schedule coordination with trunk routes. New HOV lanes planned for Highway 101 may help alleviate congestion in the future. Real-time bus information will provide passengers with updated status of bus arrivals. Although bus arrival information cannot directly address congestion delays, it does serve to reduce passenger anxiety.
4. Schedule delays occur with Airport Express due to traffic. Passengers become concerned that they have missed the shuttle or that delays will cause them to miss flights.

Real-Time Information

Golden Gate Transit does not currently have an AVL (automatic vehicle locator) system but will begin work in the near future on an integrated AVL radio system that has been planned and funded. Therefore, passengers do not know when the next bus or shuttle is arriving or departing. Golden Gate Transit is slated to receive $3,500,000 in RM2 funds for the provision of real-time transit equipment. Once this project is underway, it will be possible to determine the priorities and timeline for real-time improvements.

Taxi loading zone

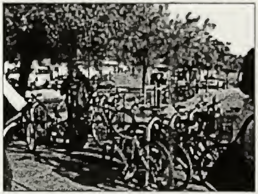

Telephones, information phones and Translink machine


Pedestrian crossing between platforms

The 'Last Mile'

The transit center is well located near key destinations, which provides numerous opportunities for "Last Mile" Services to enhance existing transit services, as described below.

1. Existing bicycle parking facilities are well-used and demand often exceeds capacity as evidenced by the number of bicycles locked to trees and poles. Space available for additional bicycle racks in the current location is limited. To maintain bicycle parking capacity, abandoned bicycles are monitored and removed. Bike lanes and/or routes leading to facility are not available.
2. Pedestrian links to the Canal District and to the high school across Irwin and Heatherton are less attractive than desired.
    - Connections from the transit center to Downtown San Rafael and other destinations within walking distance are not apparent. Wayfinding signage to/from transit center and Downtown, Canal District and Mission area is not available.
3. Taxi service is not always available during transit center hours of operation.
    - Taxi call phones and local cab company phone numbers are not provided at the taxi stand or transit information displays.



Bicycle racks

Golden Gate Route 23 loading zone

Bicyclist on Third Street to Transit Center

EL CERRITO DEL NORTE BART STATION

The transit hub task force site review was held on Wednesday May 18, 2005 at 7 AM. Representatives from transit operators and key stakeholder agencies were invited to attend including:

Representatives from:	In attendance
Golden Gate Transit	Yes
BART	Yes
AC Transit	Yes
Vallejo Transit	No
WestCAT	Yes
City of El Cerrito	Yes
East Bay Bicycle Coalition	Yes

The site review began with a short briefing on the project and a general discussion of how transit services operated at the station. This transit hub is one of two BART Stations located in the City of El Cerrito and serves as a local and regional bus transfer facility. Because of its proximity to highways I-80 and I-580, El Cerrito del Norte BART Station has regional bus connections to San Rafael on Golden Gate Transit, to Martinez and Hercules via WestCAT, and to Vallejo on Vallejo Transit. Local bus service to neighborhoods in El Cerrito and surrounding communities is provided by AC Transit. Bus service is available at three passenger platforms with a total of 18 bus bays. See Appendix B, Page B-2.

The El Cerrito del Norte BART Station is located on the Richmond-Fremont Line with direct service available to all destinations on that line. Additionally, direct service to San Francisco/Daly City is available until approximately 6 PM, Monday - Saturday. During weekday peak hours, this direct service is extended to Millbrae/SFO. Other destinations in the BART system require a transfer.

The following problems or issues were identified during the site review. The associated needs for improved transit connectivity are also included.

Wayfinding Signage

1. Patrons have difficulty finding the correct bus and bus loading location when making BART/bus and bus/bus transfers.
    - A comprehensive display of connection destination possibilities is not provided within the station center lobby and on both sides of the station. Only one station layout plan showing bus loading areas was found within the station.

Task Force at El Cerrito del Norte BART Station

Station Paid Area

Bus Terminal from BART Platform

- Because of the number of transit operators at this facility, visible agency logo identification is lacking at bus stop locations.
- Better exit directions from the paid/ticket area of the BART station to connecting bus routes are needed.
- Beyond the paid/ticket area of the BART station, directional signage is needed to the various bus operators and bus stops.
- Northbound and southbound buses of the same route often load in different locations (e.g., AC Transit Route 72R), which can be confusing for customers. Clear signage including route direction and/or destination is not provided

2. Some patrons can not find the elevators.
3. Some signage is not ADA compliant because it is too high or the typeface is too small. In particular, the signage directing users to the accessible route to the parking garage is too high to be visible to wheelchair users and so low as to cause an obstruction for others.

Bus boarding display in center lobby is confusing

More visible bus operator identification is needed at bus stops

Need directions to bus routes at exit

Customer Use of Transit Information

1. Regional transit information is posted at a central location in the station but is not complete or up-to-date?
    - Regional transit information is needed including maps, destinations and schedules for service providers at this transit hub. It is important that this information be kept updated as schedule and route changes occur.
    - Information on how to obtain the most current information is not provided (i.e. '511' phone or information kiosk). A map of the transit center is not provided on the '511' website at 511.org with other schedule information. Maps showing the local and regional destinations are not available.

Physical Connections

1. The accessible route (for wheelchair passengers) between the station and the parking garage needs to be improved.
   - The sidewalk providing accessible access between the station and the parking garage for wheelchair passengers is bounded on the street side by large concrete bollards. This pathway also serves the southbound bus aisle and the paratransit stop. Although providing some protection from bus traffic, these bollards significantly narrow the functional width of the sidewalk. Although this sidewalk meets requirements specified by the Americans with Disabilities Act (ADA), wider usable sidewalk width would more comfortably accommodate pedestrian traffic including wheelchair users.
2. The routing for buses to the southbound bus aisle is circuitous.
   - Previous rerouting of southbound buses for the San Pablo Avenue Rapid Bus project was considered a success by AC Transit and bus passengers in reducing bus travel times. However, additional streamlining of the southbound routing should be considered. Perhaps this link can be made even more direct by routing buses along the eastside of the BART track right-of-way. This configuration might also serve to eliminate the Ohlone Greenway offset at Cutting Boulevard.
3. The ticket vending on south end blocks visibility between main station and bus loading areas.

Better organization of route information and schedules is needed

Sign is too high

Accessible pathway to parking garage and bus bays

Amenities

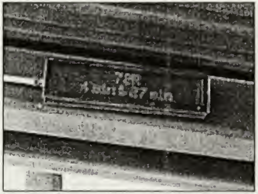
The El Cerrito del Norte BART Station has a snack bar in the ticketing area and restrooms in the paid area. Limited seating is provided at the bus stops along with bus shelters and canopies at the stops.

1. Bus shelters do not provide adequate protection from wind and rain.
2. Seating capacity for passengers is not adequate.
3. The large 'dead' space on the south side of the station between the bus platforms is currently filled with unused bike racks.
4. More visibility is needed between the station agent and the south side of the station.

Scheduling

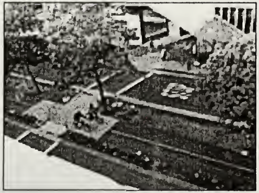
Schedule coordination between buses and BART trains is not an issue at this transit hub because of the frequency of BART service. AC Transit is currently investigating the benefits of providing pulse schedule operations at this hub to facilitate bus-to-bus transfers. Information about the number or type of bus-to-bus transfers is not currently available. However, routes operated by WestCAT and Vallejo Transit cannot rely on timed transfers **with each other, BART or AC Transit** because of congestion on Highway I-80, even during off-peak hours. This congestion and ensuing delays are difficult to predict from day to day.

1. All bus service reliability and travel time are often adversely impacted by traffic on approaches to the BART station.
    - Congestion may be alleviated when HOV lanes on Highway I-80 are complete.
    - Real-time bus information will provide passengers with updated status of bus arrivals. Although bus arrival information does not directly address congestion delays, it does serve to eliminate passenger anxiety about when and if the bus will arrive.
2. Some transfers are not available during evening/weekend hours because of variable service headways and hours of operation. BART operates later in the evenings and on the weekends and more frequently than WestCat, Golden Gate Transit, Vallejo Transit and certain AC Transit routes. Therefore, passengers using BART during these times may need to use other means to complete their trip.



NextBus sign for AC Transit Rapid Bus Route 72

AC Transit bus exiting station


Ohlone Greenway at station entrance

Real-Time Information

Real-time arrival times for the BART trains is provided on the BART platforms both with signage and as audible announcements. Real-time signs (NextBus signs) are located at the shelter for the AC Transit RAPID route 72R as a demonstration project. They are currently small and not in ideal locations.

The 'Last Mile'

The station is served by the Ohlone Greeway, a key bicycle/pedestrian path following the BART right-of-way. Bicycle racks and lockers provide bicycle parking although the demand for bicycle lockers exceeds the supply. Taxi service is available from a two-vehicle taxi stand directly adjacent to the station entrance. Additional taxis are generally staged off-site. One employee shuttle provides service to the station.

1. Information/maps of roadways and destinations in El Cerrito are not available for pedestrians and bicyclists leaving the station.
2. San Pablo Avenue is a barrier to both bicycle and pedestrian traffic.

- Pedestrian crossings of San Pablo Avenue could be enhanced to allow better access to the businesses on the other side of San Pablo. The east-west pedestrian corridor through the station could be reinforced with an additional midblock crossing of San Pablo providing more direct access to the station and better links to the Ohlone Greenway and residential neighborhoods to the East.

3. Bicycle/pedestrian travel on the Ohlone Greenway can be enhanced.
   - Additional lighting and video surveillance and repair paving on the trail is needed.
4. It is difficult to find the shuttle loading area.
   - Berkens operates an employee shuttle to this station. Information about where to board and the shuttle destination is needed.

DUBLIN/PLEASANTON BART STATION

The transit hub task force site review was held on Thursday June 2, 2005 at 7 AM. Representatives from transit operators and key stakeholder agencies were invited to attend including:

Representatives from:	In attendance
BART	Yes
Livermore Amador Valley Transit Authority (LAVTA)	Yes
Modesto Area Express	No
Tri-Delta Transit	No
County Connection	No
San Joaquin Regional Transit	Yes
City of Dublin	No
City of Pleasanton	Yes
Alameda County Transportation Authority	Yes
Alameda County Congestion Management Agency	Yes
Hacienda Business Park	Yes
East Bay Bicycle Coalition	No

The site review began with a short briefing on the project and a general discussion of how transit services operated at the station. This transit hub is located at the terminus of the Dublin/Pleasanton - Daly City line and serves as a local and regional bus transfer facility. Direct BART service is available to San Francisco/Daly City with transfers required for other destinations in the BART system. Bus service is available at four passenger platforms; one platform is located at the south side of the station and three platforms are found on the north side. See Appendix B, Page B-3. Local bus service is provided by County Connection to locations in San Ramon, Dublin, and Danville and by Livermore Amador Valley Transit (Wheels), which provides connections to Pleasanton, Livermore, Dublin, and San Ramon including the Livermore and Pleasanton ACE Stations. Regional bus service is available from Stockton, Lathrop and Tracy via San Joaquin Regional Transit connects and from Modesto on Modesto Area Express. Amtrak Thruway bus service is also available to provide connection to Stockton and San Jose for the San Joaquin or Coast Starlight trains, respectively. Various shuttles provide service to major employers in the area including Providian, Charles Schwab, and Applied Bio Systems.

The following problems or issues were identified during the site review. The associated needs for improved transit connectivity are also included.

Dublin/Pleasanton BART Station

Walkway to southern bus platform

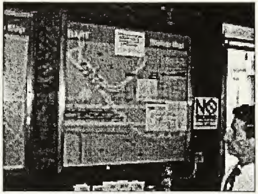
To BART Station from southern bus platform

Wayfinding Signage

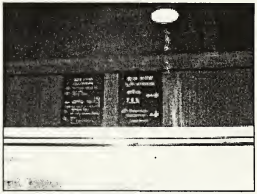
1. It is difficult for passengers arriving by bus to find the BART station.
    - Directional signage to the BART station is needed to guide pedestrians from the bus stops and the remote parking areas to the station entrance.
2. It is difficult for patrons transferring to the buses/shuttles/taxis to find the correct loading area.
    - The main information board is located on the north side of the entry/exit way and is poorly lit. The information map itself is readable and appears to be easily updated (magnets for bus route numbers).
    - Connecting buses are located on both the north (Dublin side) and south (Pleasanton side) sides of the station - some quite a distance from the station entrance/exit. Directional signs on the overhead beam at the BART exit are too high and dark, and easy to miss.
    - Very minimal passenger information is provided along the north and south bus platforms including simple bus stop "flags" and individual bus route maps. The flags are difficult to read at a distance and information regarding locations of other bus stops is not provided. In addition, bus operator system maps and a station map showing the location of the bus stops are needed at each bus platform.
    - Logos for bus operators are not clearly displayed.
    - Directional maps of the bus transfer facility are not provided at locations along bus loading areas to facilitate bus-to-bus transfers.
    - Directional signage to the location of taxi, passenger drop-off/pick-up and shuttle stops is needed.

Customer Use of Transit Information

1. Regional transit information is difficult to find, read and is not kept updated.
    - Although this station has local maps, the transit connection displays need to be better organized and responsive to the patrons' needs in order for them to easily identify the connecting bus to reach their destination.
    - Regional transit schedules are not kept updated and information on how to obtain the most current information is not provided (i.e. '511' phone or information kiosk). A map of the transit center is not provided on the '511' website at 511.org with other schedule information. Maps showing the local and regional destinations are not available.



Bus facility location map



Bus stop directional signs are poorly located

Directions to station are needed from bus stops

- Better lighting is needed for the information board near the station attendant. Better identification is needed to identify it as the information center. Bus route system maps should be included in this display area.

Physical Connections

1. Bus loading areas are quite a distance from the BART station entrance; some of the bus bays to the south are more than 900 feet from the entrance.
    - As a next step, operators should consider the feasibility of relocating bus loading areas closer to the station entrance.
    - Continue passenger drop-offs at the BART station entrance as buses pass by. Consider also the practice of making a brief stop at the entrance to pick-up passengers at the station entrance for routes that already pass by the entrance ('load-and-go').
2. Paratransit loading and unloading causes congestion with other fixed routes attempting to drop passengers off at the station entrance.
    - Opportunities should be explored for better facilitating both paratransit and fixed route operations, including the possibility of relocating the paratransit loading area with better amenities.
3. Bus and shuttle drivers desire restroom facilities more conveniently located to the bus loading areas.
4. San Joaquin Transit (SMART) currently operates service to the Dublin/Pleasanton BART Station in the AM peak and returns to the Stockton area in the PM peak. To conserve fuel and minimize operations costs, SMART would like to layover buses at the BART station after the morning commute trips and shuttle drivers in smaller vehicles for the PM peak trips.

Amenities

Restrooms are located in the paid area of the station. Bus canopies and limited seating are provided at the bus stops.

1. Weather protection is inadequate at the bus loading areas and other pedestrian connections.
2. Seating capacity for passengers is not adequate.
3. The BART station itself is located in the center of the I-580 freeway. Consequently, the station entrance is located under the elevated freeway structure. This area below the freeway is dark even during daylight hours.

Paratransit loading and layover at station entrance

Station entrance under freeway needs additional lighting

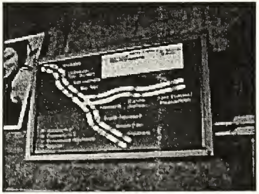
Southern Bus Platforms

Scheduling

1. Transfers are not available during evening/weekend hours because of variable service headways and hours of operation. BART operates later in the evenings and on the weekends and more frequently than WHEELS, DART and County Connection. Therefore passengers using BART during these times may need to use other means to complete their trip.
    - Currently, County Connection weekend service is coordinated with BART and displays the BART times on their schedules. Wait time averages 5-8 minutes between the transit modes. However, there is a significant difference in the hours of operation between BART and County Connection service; BART runs trains past midnight and County Connection ends operation around 9-10 PM on Saturday and in the afternoon on Sunday).
    - Most of LAVTA routes are weekday only; three routes provide weekend service but only Route 10 operates on Saturday after 8 PM and on Sunday. On Saturday, Route 10 does coordinate with the last outbound BART trains but does not meet the last few inbound trains to Dublin/Pleasanton Station. On Sunday, Route 10 service ends well before the last BART trains arrive or depart.
    - LAVTA will be providing 24- hour (OWL) service on Route 10 with expected service to begin in December 2005; the schedule has not yet been determined but most likely will include hourly service. If OWL service on Route 10 proves successful, other high performing routes may also be considered for OWL service to help address the lack of evening bus service.
    - The last bus trip of the day is the most schedule critical connection; coordination between the connecting BART train and last bus is needed.
2. The station is very spread out and has long transfer walking distances. These long walking distances increase the amount of time required for a coordinated timed transfer operation. BART headways are short, so the key challenges are the long headways for some of the bus routes.

Schwab Shuttle loading area

Taxi stand/passenger drop-off/shuttle stop


Minutes to next train (most important) should be much larger

Real-Time Information

Real-time arrival times for the BART trains is provided on the BART platforms both with signage and as audible announcements. In addition, BART provides one NextTrain display at the entrance to the BART station; the current placement of the sign is high which is not ideal for passengers to read.

Currently, LAVTA has a fully functional AVL system. It is proposed to install two 16" signs at the BART exit, one sign for the Dublin bus bays and one sign for the Pleasanton bus bays to display real-time bus arrival and departure times. A kiosk with a touch-screen website is planned to be installed by the end of 2005.

The 'Last Mile'

Maps to local destinations are provided in the station but wayfinding signage is not. Bicycle parking is available at both bicycle racks and lockers. The demand for bicycle lockers greatly exceeds the available supply. The BART station is served by the Iron Horse Trail, which travels through the San Ramon Valley to connect with Pleasant Hill BART Station. However, signage to the trail is inconsistent. A taxi stand is provided although the location is clearly identified. The station is served by several shuttles; some are clearly signed with posted schedules while others are not.

1. Bicycle connections to the BART station need to be improved, with some consideration given to:
    - Advocating for new bike trails on the Flood Control right-of-ways through a cooperative effort between the City of Pleasanton, the Flood Control District, Alameda County and Hacienda Business Park.
    - Improving connections and signage to Iron Horse Trail especially at crossing of Dublin Boulevard are needed.
    - Providing additional secure bicycle parking.
2. Pedestrian connection to the station is difficult especially from south side of station.
3. 'Last Mile' connections by taxi and shuttle need improvement.
    - Additional shuttle service by major employers and employment centers should be encouraged.
    - Directional signage to taxi and shuttle loading zones is needed.
    - Taxi call phone and local taxi company phone numbers are needed at taxi stop and/or transit information center.
    - Shuttle schedule and information phone numbers are needed at shuttle stop and/or transit information center.
    - Connections for employee of Hacienda Business Park with the BART station should be maintained and strengthened.
4. Pedestrian crossing at BART station entrance is dangerous because of low lighting levels.

Unused retail space - possible location for bikestation?

SAN FRANCISCO FERRY TERMINAL/EMBARCADERO STATION

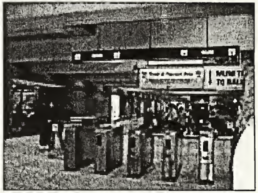
The transit hub task force site review was held on Wednesday May 25, 2005 at 7:30 AM. Representatives from transit operators and key stakeholder agencies were invited to attend including:

Representatives from:	In attendance
MTC	Yes
BART	Yes
Muni	Yes
Golden Gate Transit	Yes
Vallejo Transit	No
Alameda-Oakland Ferry	No
Harbor Bay Isle Ferry	No
Tiburon Ferry	No
City of San Francisco Dept of Parking & Traffic	Yes
San Francisco Bay Area Water Transportation Authority (WTA)	Yes
Port of San Francisco	No
Market Street Railway	No

The site review began with a short briefing on the project and a general discussion of how transit services operated at the station. Of the five prototype transit hubs, the San Francisco Ferry Terminal/Embarcadero Station is the only facility with ferry service. In addition, it is not a single contained station but is composed of two distinct stations (Ferry Terminal and Embarcadero BART/Muni Metro Station) connected by several blocks in urban Downtown San Francisco. Additional transit service is available on the street via the 'F' Line, Cable Car and various Muni bus routes. Amtrak Bus Thruway service is also available with connections to the Emeryville Amtrak Station. This transit hub carries a significant amount of daily weekday commuter traffic but also has heavy use by visitors and tourists during both weekdays and weekends. See Appendix B, Page B-4.

The following problems or issues were identified during the site review. The associated needs for improved transit connectivity are also included.

San Francisco Ferry Terminal from Embarcadero Station



Muni Metro entrance at Embarcadero Station

Golden Gate Ferry

Wayfinding Signage

Because of the size and variation of this transit hub, the preliminary findings about wayfinding and signage have been grouped by the following categories:

A. Arrivals/departures at the Ferry Terminal
B. Connection between the Ferry Terminal and Embarcadero Station
C. Arrivals/departures at the Embarcadero BART/Muni Metro Station

A. Arrivals/departures at the Ferry Terminal

1. Signage for passengers arriving into the Ferry Terminal by ferry is inadequate. Specifically:
    - The entrances into the ferry building from the dock need to be more clearly marked.
    - Large-scale directional signage is needed at the exit of each ferry pier to direct passengers to Ferry Terminal, Muni, BART, Amtrak, Cable Car, Market Street, Transbay Terminal and Taxis.
    - The delineation of pathways and overall directions between ferry loading areas and landside transportation facilities is poor; making the connection to other transit service is further complicated by vehicles parked/loading on the ferry gate apron area.
    - A hierarchy of information of the most popular connection possibilities via the ferry terminal is needed.
    - Within the ferry terminal building, comprehensive "what" information is needed to provide arriving passengers with the information about connection and destination possibilities.
    - Maps of transit connections and popular destinations should be included at the following locations:
        - — A station area map is needed near the Amtrak bus stop showing locations of taxis, Muni, BART, Tranbay Terminal and ferries.
        - — Create awareness of regional connection possibilities with displays at the Larkspur/Sausalito dock.
        - — Signage is needed for arriving ferry passengers using the central exit aisle onto the Embarcadero.
        - — Signage is needed for passengers arriving at Ferry Gate E.
2. When departing by ferry, it is difficult to find the correct loading area.

San Francisco

Not all Muni bus stops/routes are shown. Stations/stops could use MUNI and BART logos for reinforcement of identity.

Bicycle Parking at Ferry Terminal

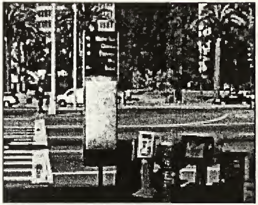
- Existing wayfinding signage to ferry gates lacks visual impact. Additional directional signage to the three ferry piers is needed for ferry-bound passengers.
- Gate identification is generic - better identification of ferry operators and destinations is needed.
- Sometimes it is difficult to determine which boat ferry passengers are queuing up for; signage would be helpful to help passenger find the correct queue.
- The current maps at the Ferry Terminal are a little out of date and some are not ideally located.

B. Connection between the Ferry Terminal and Embarcadero Station

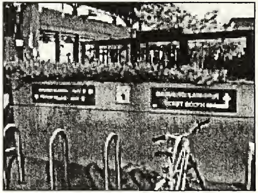
1. Making connections between the ferries, Muni, BART and other destinations is not clearly explained with wayfinding signage.
    - On-street pedestrian-oriented directional signage between the ferry building and Embarcadero station is lacking.
    - The signage at the F Line stops does not clearly direct passengers where to board for Market Street, Fisherman's Wharf or the baseball stadium.
    - With the recent dispersement of Muni bus stops, it is more difficult for passengers to find their connecting Muni bus stop.

C. Arrivals/departures at the Embarcadero BART/Muni Metro Station

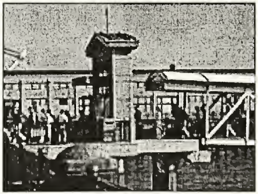
1. It is difficult to find the Embarcadero Station.
2. It is difficult to find the correct exits from Embarcadero Station to reach desired destinations.
    - The exit signage needs to be updated and simplified. For example, the Airporter signs are no longer accurate.
    - Consideration should be given to identify the many exits and BART/Metro gates with letters to facilitate greeters meetings and to advise passengers which gate to use to most easily get to their transfer or other destination.
    - Signage for passengers exiting the trains is needed to advise them which direction to turn for quickest up escalator exit - a la London "Way Out" signage.
    - Local area maps that provide the locations of nearby Muni bus stops and their routes are not provided.



Directions to connecting Muni bus stops are needed



Ferry directional signage is not clearly visible



Vallejo Ferry loading

3. It is difficult to differentiate between BART and/or Muni entrances.
   - At the common BART/Muni Metro ticket level, better signage would distinguish between Muni and BART entrances – Agency colors and logos could be used for this purpose.
4. It is difficult for passengers to determine where to board BART and Muni trains and how to make the transfer between BART and Muni.

Area maps and connection information is needed at cable car terminus loading zone

A better organized and easily understood display of transit connections is needed

Customer Use of Transit Information

1. Regional transit information and maps should be better coordinated and strategically located.
   - Regional transit information should include information on transit operators, schedules and destinations that they serve. A map of the transit hub with boarding locations for each transit operator as well as location of popular destinations should be included. This information should be consistent throughout the transit hub area, should be kept updated, and create awareness of regional connection possibilities.
   - Existing downtown and ferry vicinity maps in freestanding displays do not show all the Muni routes/stops in the vicinity of the ferry terminal.
   - The stations and stops shown on existing maps do not emphasize the agency "brands", e.g., Muni and BART logos.
   - Because of the variety of transit services available and the number of destinations served by this hub, the standard transit map might not be the best solution. Consider alternative transit destination locators such as a matrix with an alphabetized/categorized listing of destinations beyond walking distance from the station. This component would function like a mall directory with the Muni bus route numbers listed instead of addresses. Another idea is to grid the maps with a list of destinations below (like the Washington Metrorail area maps) with the added information of the Muni routes.
   - Consider providing some of the directional information on board the ferry boats, BART trains and Muni vehicles.
   - Access to regional transit information service on '511' is not provided.
   - Map of the transit center is not provided on-line with other schedule information.
2. Current transit schedules and routes are out of date.
3. In general, it is confusing to know where to buy tickets for ferries, BART and Muni. Golden Gate Transit sells tickets prior to boarding but other ferry operators sell single ride tickets on board. Where might a passenger purchase a multi-ride ferry ticket, a Muni passport (day or multi-day pass)

or even learn about them? At BART/Muni stations each operator has a booth, and there are 2 Transit Stores that sell tickets.

4. Passengers whose primary language is other than English may experience difficulties
    - Due to the extremely high volume of tourist traffic through the hub vicinity, signage recommendations should address the need to include other languages, and the utilization of international wayfinding icons and transit agency "brands" e.g. logos.

Physical Connections

1. Passengers are not protected from inclement weather when making connections between some facilities at this transit hub.
2. Currently, in order to transfer between BART and Muni Metro, a passenger must go up to concourse level and back down. (Improvements to the BART/Muni Metro transfer connections are planned as part of RM2.).
3. Pedestrian connections between transit hub facilities need to be more direct and convenient.

Amenities

The San Francisco Ferry Terminal/Embarcadero Station covers several blocks in downtown San Francisco. Consequently there are a variety of shops, restaurants and other services for the commuter and tourist transit passenger. The Ferry Terminal, a popular tourist destination itself, is housed in a recently restored historic building which was developed with an indoor mall of restaurants and specialty shops. Restrooms facilities are available as well as an information and ticket booth for ferry and other transit information. GGT Ferry also has a ticket booth at the entrance to the loading dock for the Larkspur and Sausalito ferries. Amtrak has a small waiting room and ticket booth in a building adjacent to the Ferry Terminal. The Embarcadero Station includes a flower stand, Muni/BART ticket booths, and bikestation.

1. Weather protection is not available at some facilities for waiting passengers.
2. Passengers do not know where to catch a taxi. For Amtrak passengers, many arriving with luggage, the availability or proximity of taxi service may be an important consideration.

City pedestrian wayfinding signs in the vicinity of Embarcadero Station

Better agency identification is needed to distinguish between BART and Muni service

Scheduling

Aside from Amtrak buses, the service frequencies of the major ground transit services (BART and Muni Metro, buses, cable car and 'F' line) do not seem to require special schedule coordination. The walking distances required between transit services also makes schedule coordination difficult to manage. The ferries run less frequently, often with one hour or greater headways. According to the WTA, ferry-to-ferry transfers rarely occur so that timed-transfers between ferries is not considered important.

Real-Time Information

Real-time arrival times for the BART trains is provided on the BART platform both with signage and as audible announcements. Similarly, real-time arrival times for Muni Metro are available on the Muni platform with both signage and audible announcements. In addition, a NextTrain display is installed on one of the Muni agent booths on the main level of the Embarcadero station. The sign includes a map of the whole city with the location of light rail trains throughout the system. The actual NextTrain portion of the sign is small and difficult to read from any distance. A single-line digital sign is also posted on the station agent booth with rotating display of next train arrivals. Real-time information is not available for cable car, ferry, streetcar or bus service.

In the future, the ferry gates will have real-time arrival/departure display signs similar to those on BART platforms. Similar signs will be installed at the gates in the Larkspur, Vallejo, Alameda, and Oakland ferry terminals. In addition, two large plasma screen signs displaying overall real-time schedule information for multiple routes are planned to be installed in central locations at the hub. The central plasma screen signs can toggle between displaying commuter-specific schedule information during weekdays, and more tourist-oriented information during weekends.

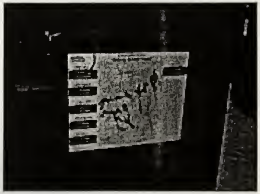
The 'Last Mile'

Bicycle parking is available at racks outside the Ferry Terminal or at the Embarcadero Bike Station. Bicycle access to the transit hub is available from bike lanes on Embarcadero and Folsom/Howard Streets. The location of taxi service is not identified, but is available at the Embarcadero Hyatt Hotel. The transit hub is served by one shuttle but no signage or schedule information is provided. Opportunities exist to:

1. Increase bicycling opportunities, especially through the promotion of the Embarcadero Bike Station.
2. Improve connections with taxi service.
3. Make pedestrian connections more convenient

Crosswalk from Ferry Terminal to Embarcadero Station

Signage at exit from Embarcadero Station



Muni NextTrain map and signage at agent's booth

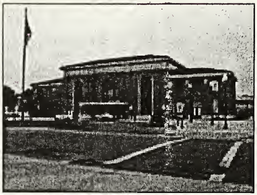
SAN JOSE DIRIDON STATION

The transit hub task force site review was held on Thursday May 26, 2005 at 7 AM. Representatives from transit operators and key stakeholder agencies were invited to attend including:

Representatives from:	In attendance
VTA	Yes
SamTrans	Yes
Caltrain	Yes
Caltrans Division of Rail	No
Caltrans High Speed Rail	No
Amtrak	No
BART/Capitol Corridor	No
Santa Cruz MTD	No
ACE	No
City of San Jose DOT	Yes
HP Pavilion/SJ Arena	No

The site review began with a short briefing on the project and a general discussion of how transit services operated at the station. Of the five prototype transit hubs, the San Jose Diridon Station is the only facility with conventional commuter rail service. Amtrak's Capitol Corridor and Coast Starlight both serve the station as well as the Altamont Commuter Express (ACE) trains and Caltrain. Local and regional bus service is also available at the station. Santa Clara Valley Transportation Authority (VTA) buses provide service to locations in Santa Clara County including the DASH shuttle to Downtown San Jose and the Light Rail system. Regional bus service is available to Santa Cruz on Santa Cruz Metropolitan Transit District's Highway 17 Shuttle and Amtrak's Bus Thruway service to Stockton and connection to the San Joaquin trains. Various employer shuttles also provide service to the station. See Appendix B, Page B-5.

The following problems or issues were identified during the site review. The associated needs for improved transit connectivity are also included.



San Jose Diridon Station

Diridon Station bus terminal

ACE commuter train

Wayfinding Signage

1. The San Jose Diridon Station does not have a clear identity to passengers arriving from surrounding roadways, by bus or by train. In fact, prior to being named as Diridon Station, this station was known as Cahill Station. In some transit information, it is still referred to as Cahill Station or Diridon Station or San Jose Station.
    - The station name should be made consistent among transit operators and providers of transit information.
    - Plans have been developed for transit-oriented development around the depot building. As these plans progress, the need for a bolder marquee sign on Santa Clara Street will increase.
    - Standard traffic wayfinding signage for Amtrak stations is absent and should be provided.
2. Circulation within the station is confusing
    - The audio information at the transit center, in the depot and on the platforms needs to be enhanced.
    - Near the top of the subway after exiting the staffed ticket area better signage is needed to direct people to the accessible path to the elevator.
    - Signs identifying the ticket validation machines for Translink and Caltrain need to be made more visible.
    - The opening of the Vasona light rail transit (LRT) station this summer will necessitate the need for guide signage through the main depot building to show path to the LRT station. This signage will be especially important at the bottom of the passenger rail platform ramps to direct LRT passengers east and all others west.
    - Above the platform exits, the term "Subway" could be confusing, especially after LRT service begins.
3. It is difficult for passengers to find exact location for bus/shuttle/taxi loading and location of surrounding destinations.
    - Directional signage is needed near the top of the depot building arrivals ramp directing passengers to buses and Arena (straight) and taxis (right).
    - Map of the transit center is needed including the location of bus stops, shuttle stops and taxi loading area. This map should also provide the location of HP Pavilion, Route 22 stop on Santa Clara Avenue and other local destinations.

SAN JOSE
TO STATION

Signage from rail platform to station

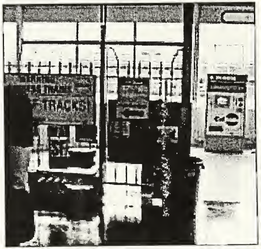
Transit connection information needs organization

Example of Information Kiosk Signage at Caltrain's 4th/Townsend Station, San Francisco

- Bus stop “flags” should be more visible including route numbers and agency logos.
- The private shuttle stops should be identified including shuttle destination and schedule. A pole already exists at the stop location.

4. It is difficult for passengers to find the desired train.
   - Track platform identification numbers in the subway should be larger and the feasibility/desirability of adding variable message signs at each portal to show train using the platform should be considered.
   - Currently, a major wayfinding problem at this station is identifying on which track your train is boarding. Signage is needed to include the train destination, time of departure, and track number.
   - The anteroom between the main station and the underpass to the train platforms is a strategic decision point and should be better organized to provide directional, ticket purchase, ticket validation and train schedule information. Improved lighting in this area is also needed.
   - Larger, bolder track identification is needed on each platform.

Subway from rail tracks to station



Better direction to trains is needed

Customer Use of Transit Information

1. Regional transit information is difficult to find and understand, and not always complete and up-to-date.
   - Transit connection information is disaggregated over five display panels leading to the bus stop area. This information should be organized, easier to understand, and more responsive to the user’s connecting informational needs. Clear identification as a source of regional transit information is needed. Station map, map of bus and rail service and a local map with popular destinations in the neighborhood should be provided.
   - Regional transit schedules are not kept updated and information on how to obtain the most current information is not provided (i.e. ‘511’ phone or information kiosk). A map of the transit center is not provided on the ‘511’ website at 511.org with other schedule information. Maps showing the local and regional destinations are not available.
2. Ticket information and sales is confusing.
   - The staffed ticketing facility identifies separate windows for Amtrak and for Caltrain - are they separate? Clarification is needed to provide information regarding purchasing of ACE tickets and Capitol Corridor tickets.

- VTA bus passes and maps are not currently available at the station.
- Ticket purchases and information for passengers arriving/departing on Vasona LRT service will be needed once LRT service begins.
- Ticket purchase and validation machines are needed on train platforms.

Physical Connections

1. The DASH shuttle appears to be the most heavily utilized connection for rail passengers, but its current stop is not the closest to the depot, nor well signed or weather protected. Consideration should be given to relocating the DASH stop.
2. A more convenient boarding location for the weekend Tamien shuttle stop is needed.
3. The wheelchair lift for accessible access from the depot to the underpass for train platform access is out-of-service and should be repaired.

Amenities

Amenities at the San Jose Diridon Station include a snack shop, restrooms and indoor waiting area. In addition, there is a ticket/information booth for purchase of train tickets.

1. The taxi loading zone is not protected from the weather.
2. Weather protection is not provided for private shuttles, northbound route 22 on Santa Clara Street and Highway 17 Shuttle.
3. Seating capacity for passengers is not adequate.

Scheduling

1. Future VTA LRT anticipates transfer/scheduling difficulties with Caltrain. Single track segments (2 in Campbell and 1 in Mountain View) make the LRT schedule inflexible so that some trains during midday running at 30-minute headways will just miss Caltrain which is also running at 30 minute headways.
    - Off-peak schedule coordination should require no more than a 15 wait for transferring passengers.
    - Consider track-sharing with freight line in single track segments so that NB/SB trains can travel at the same time
    - Consider future possibility of acquiring freight track to convert to LRT track.

DASH shuttle stop

Real-time arrival information on platform

Real-time signs at entrance to subway

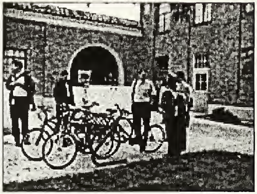
Real-Time Information

Currently there are four real-time signs at the station. Two real-time signs are located above the ticket machines, directly to the left prior to the ramp that leads to the pedestrian tunnel; this location is not highly visible. Another two signs are located at the entrance to the pedestrian tunnel. NextTrain signs are also located on the train platforms. In addition, an Amtrak Capital Corridor real-time sign at the southeast end of the bus bays near the entrance of the depot building. Real-time signage is being investigated for the new Vasona LRT line.

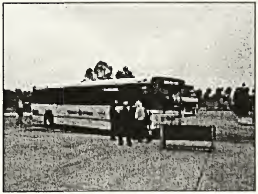
The 'Last Mile'

Bicycle parking is provided with bicycle racks and lockers. Several shuttles serve the station; some signs and schedules are posted. Taxi service is available directly outside the main station entrance.

1. Pedestrian connections between the station and surrounding neighborhood need improvement.
    - Directions are needed to the safe pedestrian walking route, which is located on the opposite side of Cahill Street. From the side exit of the station perhaps this directional sign could be located on the back side of the Amtrak sign.
    - The pedestrian walkway to H.P. Pavilion and in the direction of downtown San Jose needs better signage to possible destinations perhaps with the use of banners, signs and other brightly colored wayfinding materials that promote local facilities and culture within a mile of the station.
    - Pedestrian-scale lighting is needed on Cahill Street
    - Provide pedestrian connections to new residential areas to the west of the new light rail station. Perhaps the City of San Jose would consider preparing a pedestrian plan for the downtown area as part of their vision for the Diridon Station.
2. Bicycle connections between the station and the surrounding neighborhood need improvement.
    - Directional signage is needed to direct bicyclists to bikeway facilities and to destinations in the station area. Signage to bicycle parking areas are also needed.
    - Additional secure bicycle parking is needed at the station with the possible use of on-demand locker facilities or a bikestation.
3. Flexible 'Last Mile' travel options are needed and can potentially be provided with a car-share program at the station


Bicycle parking

Ticket counter


Bus stop for Highway 17 Express

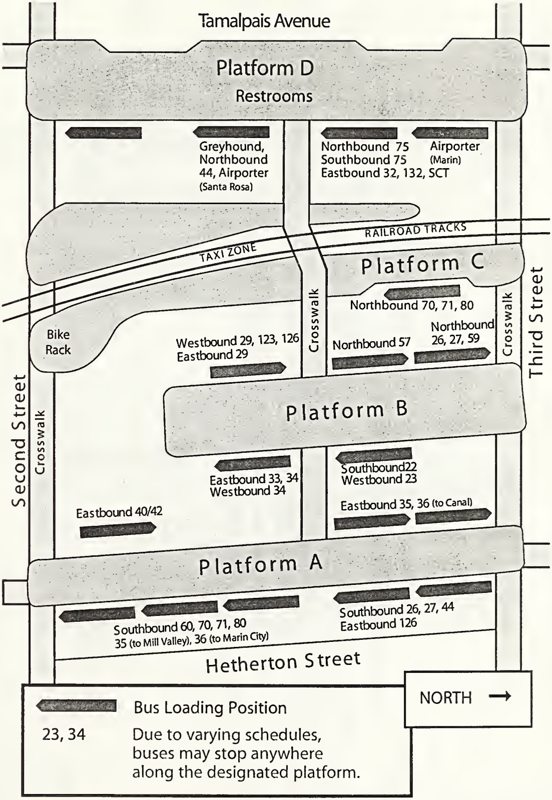
MTC Transit Connectivity Study

Technical Memorandum 3A:
Results of the Prototype Transit Hub Site Reviews

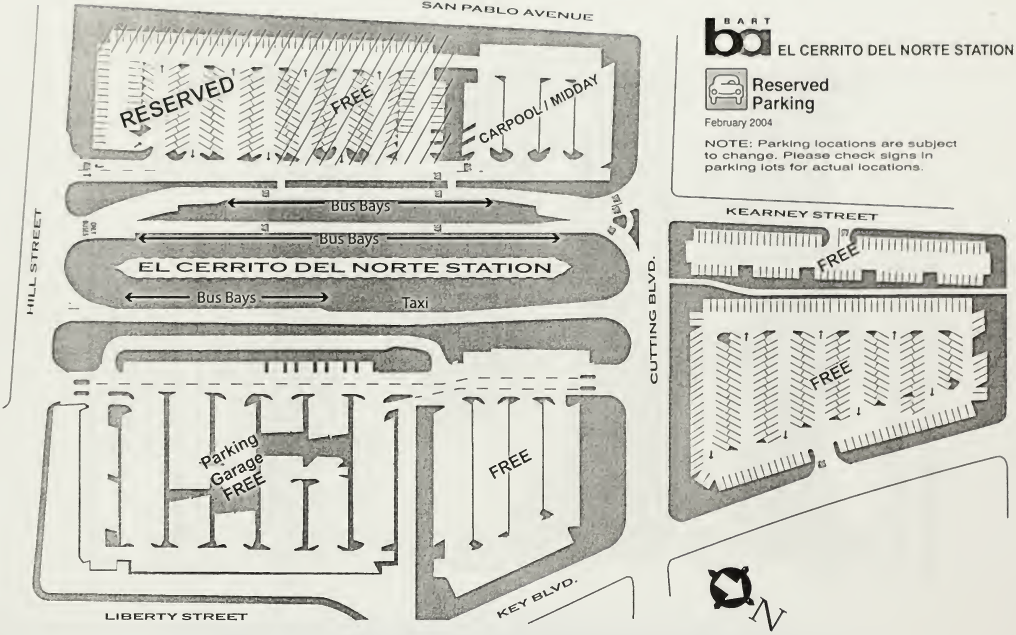
APPENDIX B

Transit Hub Maps

San Rafael Transit Center Map
(C. Paul Bettini Transit Center)


Tamalpais Avenue
Platform D
Restrooms
Greyhound, Northbound 44, Airporter (Santa Rosa)
Northbound 75
Southbound 75
Eastbound 32, 132, SCT
Airporter (Marin)
RAILROAD TRACKS
TAXI ZONE
Platform C
Northbound 70, 71, 80
Bike Rack
Westbound 29, 123, 126
Eastbound 29
Crosswalk
Northbound 57
Northbound 26, 27, 59
Crosswalk
Third Street
Second Street
Crosswalk
Platform B
Eastbound 33, 34
Westbound 34
Southbound22
Westbound 23
Eastbound 40/42
Eastbound 35, 36 (to Canal)
Platform A
Southbound 60, 70, 71, 80
35 (to Mill Valley), 36 (to Marin City)
Southbound 26, 27, 44
Eastbound 126
Hetherton Street
NORTH →
Bus Loading Position

23, 34 Due to varying schedules, buses may stop anywhere along the designated platform.

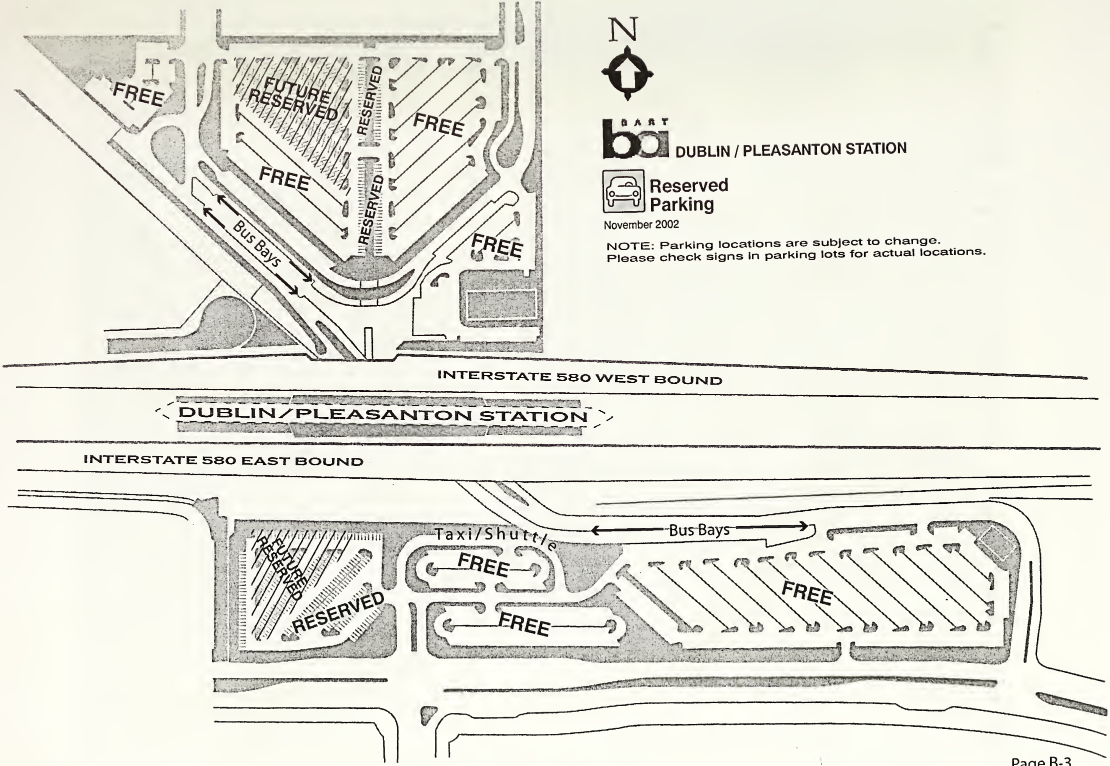

SAN PABLO AVENUE
RESERVED
FREE
CARPOOL / MIDDAY
Bus Bays
Bus Bays
EL CERRITO DEL NORTE STATION
Bus Bays
Taxi
HILL STREET
CUTTING BLVD.
KEARNEY STREET
FREE
FREE
Parking Garage FREE
FREE
LIBERTY STREET
KEY BLVD.
N

BART EL CERRITO DEL NORTE STATION

Reserved Parking

February 2004

NOTE: Parking locations are subject to change. Please check signs in parking lots for actual locations.



BART DUBLIN / PLEASANTON STATION

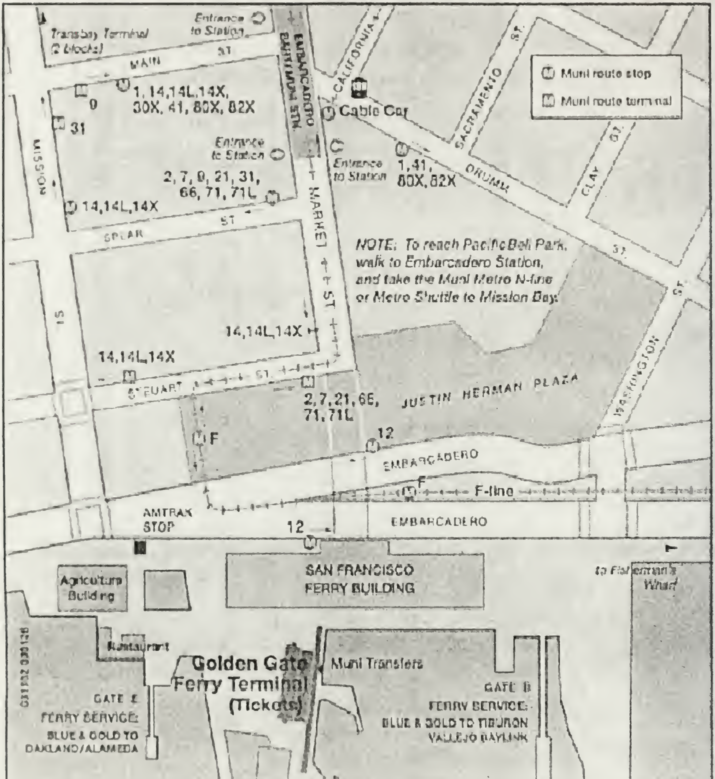
Reserved Parking

November 2002

NOTE: Parking locations are subject to change.
Please check signs in parking lots for actual locations.

N
FREE
FUTURE RESERVED
RESERVED
RESERVED
FREE
FREE
Bus Bays
FREE
INTERSTATE 580 WEST BOUND
DUBLIN/PLEASANTON STATION
INTERSTATE 580 EAST BOUND
Taxi/Shuttle
Bus Bays
FUTURE RESERVED
RESERVED
FREE
FREE
FREE

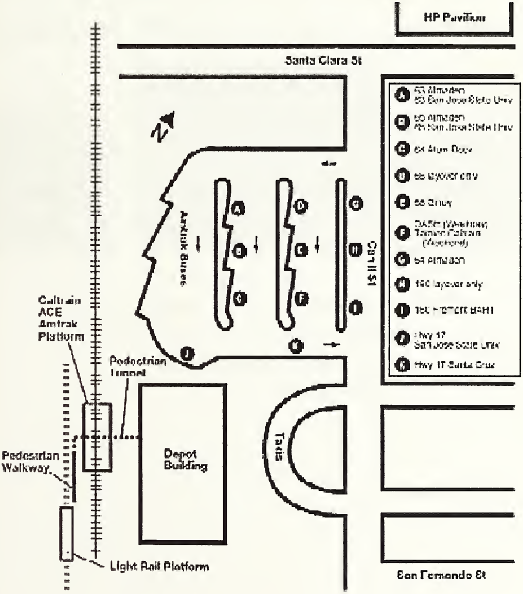
Golden Gate San Francisco Ferry Terminal


Transbay Terminal (2 blocks)
Entrance to Station
MAIN ST
EMBARCADERO STATION
1, 14, 14L, 14X, 30X, 41, 80X, 82X
0
31
MISSION ST
Entrance to Station
2, 7, 0, 21, 31, 66, 71, 71L
14, 14L, 14X
SPEAR ST
MARKET ST
CALIFORNIA ST
Cable Car
SACRAMENTO ST
Entrance to Station
1, 41, 80X, 82X
DRUMM ST
CLAY ST
Muni route stop
Muni route terminal
14, 14L, 14X
14, 14L, 14X
STEUART ST
2, 7, 21, 66, 71, 71L
JUSTIN HERMAN PLAZA
WASHINGTON ST
F
12
EMBARCADERO
F
F-line
AMTRAK STOP
12
EMBARCADERO
SAN FRANCISCO FERRY BUILDING
to Fisherman's Wharf
Agriculture Building
Restaurant
Golden Gate Ferry Terminal (Tickets)
Muni Transfers
GATE E FERRY SERVICE: BLUE & GOLD TO OAKLAND/ALAMEDA
GATE B FERRY SERVICE: BLUE & GOLD TO TIBURON VALLEJO BAYLINK
Restaurant
Golden Gate Ferry Service: Larkspur Sausalito
0
300 FEET
Scale approx.

NOTE: To reach PacificBell Park, walk to Embarcadero Station, and take the Muni Metro N-line or Metro Shuttle to Mission Bay.

San Jose
Diridon Transit Center

JUL 4 2005


HP Pavilion
Santa Clara St
N
Amtrak Buses
Cahill St
Taxis
Caltrain
ACE
Amtrak
Platform
Pedestrian
Tunnel
Pedestrian
Walkway
Depot
Building
Light Rail Platform
San Fernando St
A 63 Almaden
63 San Jose State Univ
B 65 Almaden
65 San Jose State Univ
C 64 Alum Rock
D 65 layover only
E 68 Gilroy
DASH (Weekdays)
F Tamien Caltrain
(Weekends)
G 64 Almaden
H 180 layover only
I 180 Fremont BART
J Hwy 17
San Jose State Univ
K Hwy 17 Santa Cruz

MTC Transit Connectivity Study

Technical Memorandum 3B

Customer Research Summary Report

Wilbur Smith Associates
Kimley-Horn and Associates
Harley & Associates
Moore Iacofano Goltsman

July 26, 2005

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Appendices (In a separate document)

PART A - Investigating the Regular Transit User Experience

Focus Group Survey Summaries

- Dublin Pleasanton Station
- San Francisco Embarcadero Station
- El Cerrito del Norte Station
- San Rafael Transit Center
- San Jose Diridon Station

PART B - Investigating the Non-Transit User Experience

Travel Diaries

- Travel Diary Routes
- Travel Diary Booklet
- Travel Diary Transcriptions

PART C - Improving Customer Use of Transit Information

Focus Group Survey Summaries

- San Francisco
- East Bay (Oakland)
- South Bay (San Carlos)

Executive Summary

On behalf of the Metropolitan Transportation Commission (MTC), public opinion researchers and facilitators from Moore Iacofano Goltsman, Inc. (MIG) conducted a three-part study of customer experience with transit connectivity, from September through November 2005. The study was especially interested in identifying transit connectivity features that MTC can influence such as trip planning and hub-specific improvements.

The five prototypical hubs used in this study were the Dublin Pleasanton Station, El Cerrito del Norte Station, San Rafael Transit Center, San Francisco Ferry Terminal and Embarcadero Station and the San Jose Diridon Station.

Study Format and Methodology

In Part A of the study, MIG organized and conducted five focus groups at the five prototypical hubs with regular, multi-modal transit users. The focus groups' objective was to learn from avid transit users the aspects of their trips that could be enhanced to improve transit connections throughout the Bay Area. Part A participants were recruited through intercept surveys conducted by MIG staff at each of the five prototypical hubs.

Part B of the study describes MIG's original research on the travel experience of non-transit users through the five prototype hubs using a travel diary methodology. MIG asked research participants to travel a designated route through one or more of the prototype hubs and complete a travel diary that collects specific written data about distinct phases of their experience: trip planning, actual travel, transit connections and interface with the transit hub. Participants documented their impressions and experiences in the travel diary and discussed their experiences together during a focus group. Because these participants were selected due to their limited knowledge or use of public transit, their travel experience was representative of an irregular or new transit user. To recruit Part B participants, MIG placed an advertisement online at www.craigslist.org.

MIG designed Part C to further test the findings of Parts A and B. MIG conducted three focus groups to collect original data about the customer experience with information and signage. The key objective was to learn the most effective ways to provide information to a transit user while they are in the hub. The focus groups provided insight on how best to use printed materials, 511 phone and web services, RealTime features, signage and other related sources to provide the information transit riders need, when they need it and in a format that is user-friendly. Participants were a mix of frequent, infrequent and non-transit users recruited through a combination of hub intercept surveys and Craigslist advertisements.

Highlights of Findings and Recommendations by User Type

Frequent Users

Frequent users have a shared understanding of protocols for using public transportation and have developed a routine for navigating the hubs. As such, many of the needs to improve transit connectivity focus on physical improvements, related services and

RealTime, unless they were seeking an alternative route due to transit delays or a change in their regular schedule. Frequent users will also benefit from improvements that support a novice or infrequent user; some frequent users noted they often missed a close connection when slowed down by a novice user who did not know how to use a transfer machine or inadvertently did not let them pass on the escalator. Findings and recommendations from frequent users include:

- Implement a universal fare card such as TransLink to minimize the time spent on purchasing rickets or securing transfers.
- Keep all fare gates open; closed gates increase the time it takes for a user to exit and make their connection.
- Keep all transfer machines in operation; even one broken transfer machine can significantly impact a user's ability to make a connection.
- Provide consolidated RealTime information at a central location outside the paid areas; frequent users will choose an alternative route if their regular route is running late.
- RealTime information should be accurate and consistent across sources (i.e. station announcements and electronic displays) and be updated frequently.
- Frequent users find 511 to be helpful, especially when alternative transit was needed, but many were not aware of the full range of services available by web and phone.
- Since the station noise impacts the effectiveness of voice recognition when using 511, the system should be modified so that the option to use a touch tone response is more readily available.
- Since many frequent users rely on their printed schedules, make schedules more readily available and ensure they are updated regularly.
- Many frequent users were not aware of the services available near the station; improved and more prominently displayed local area maps could provide information that would help them utilize their waiting time more efficiently.

Infrequent and Novice Transit Users

Different levels of information and service are needed depending on a user's experience with Bay Area public transit. Many infrequent users expressed they would increase their use of public transit if they were more comfortable and confident navigating local transit. The following findings are specific to the infrequent and novice transit users needs.

- This user group was most likely to benefit from bolder signage and larger maps that were repeated frequently throughout the hubs. Participants noted that increased use of logos and consistent use of color would greatly increase their ability to navigate the hubs and locate transit connections.
- It is highly likely a novice user will ask an agency or uniformed personnel for information; they expect to receive a courteous, informed answer.
- Infrequent and novice users need to be reminded of information and protocols that regular riders no longer need. Some of these include:

Few novice uses were aware of the escalator protocol to "stand on the right and pass on the left." Most riders would comply if these directions were posted.

Some new users were not aware in advance of getting on the bus that exact change was required and that change machines may not always be available.

Infrequent users need more obvious signage to let them know where they should wait, exit the station and make transit connections.

Infrequent users need information about how to secure and use a transfer.

- Install directional signage to help a person determine if they are, for example, on the southwest corner. 511 and 511.org give directions to bus stops based on their north, south, east or west orientation.
- Infrequent users rely on posted schedules and materials in display cases; they should be well maintained and updated frequently.
- Because infrequent users do not usually know the exact fare amount before hand, they rely on change machines being available. Install more change machines that handle a variety of denominations.

Introduction

On behalf of the Metropolitan Transportation Commission (MTC), public opinion researchers and facilitators from Moore Iacofano Goltsman, Inc. (MIG) conducted a three-part study of customer experience with transit connectivity, from September through November 2005. All three parts of the study are discussed in this document. The study was especially interested in identifying transit connectivity features that MTC can influence such as trip planning and hub-specific improvements.

In Part A of the study, MIG organized and conducted five focus groups at the five prototypical hubs with regular, multi-modal transit users. The focus groups' objective was to learn from avid transit users the aspects of their trips that could be enhanced to improve transit connections throughout the Bay Area.

Part B of the study describes MIG's original research on the travel experience of non-transit users through the five prototype hubs using a travel diary methodology. MIG asked research participants to travel a designated route through one or more of the prototype hubs and complete a travel diary that collects specific written data about distinct phases of their experience: trip planning, actual travel, transit connections and interface with the transit hub. Participants documented their impressions and experiences in the travel diary and discussed their experiences together during a focus group. Because these participants were selected due to their limited knowledge or use of public transit, their travel experience was representative of an irregular or new transit user.

The chart below outlines the five prototypical hubs used in this study:

Transit Hub	County	Transit Modes	Operators	Type
Dublin Pleasanton BART	Alameda	BART, Transit Bus	BART, WHEELS, Amtrak buses, County Connection, Modesto Area Express/Max, San Joaquin Regional Transit/SMART	Suburban
El Cerrito Del Norte BART	Contra Costa	BART, Transit Bus	BART, AC Transit, Westcat, GGT, Vallejo	Urban
San Rafael Transit Center	Marin	Transit Bus, Intercity Bus, Marin Airporter	GGT, Greyhound, Marin, Sonoma Airporters	Urban
San Francisco Ferry Terminal & Embarcadero Station	San Francisco	BART, Ferry, Intercity Bus, LRT, Streetcar, Transit Bus	BART, GGT Bus & Ferry, MUNI Bus, LRT & Streetcar, Vallejo, Alameda & Harbor Bay Ferries, Tiburon Ferry, Amtrak, AC Transit Transbay Bus	Downtown
San Jose Diridon Station	Santa Clara	Commuter Rail, Amtrak, LRT, Bus	Caltrain, Capitol Corridor, Amtrak, Altamont Commuter Express (ACE), Valley Transportation Authority (VTA), Santa Clara Transit	Downtown

MIG designed Part C to further test the findings of Parts A and B. MIG conducted three focus groups to collect original data about the customer experience with information and signage. The key objective was to learn the most effective ways to provide information to a transit user while they are in the hub. The focus groups provided insight on how best to use printed materials, 511 phone and web services, RealTime features, signage and other related sources to provide the information transit riders need, when they need it and in a format that is user-friendly. Participants were a mix of frequent, infrequent and non-transit users.

To recruit Part A focus group participants, teams of two MIG staff visited each of the five prototypical transit hubs and conducted intercept surveys. To ensure that prospective participants had diverse commutes, staff conducted surveys at each of the five hubs from at varying times and at different parts of each hub (i.e., train stops, bus stops, ferry landings, etc.). Participants provided their response on the spot or responded by phone, e-mail or fax at a later time. MIG received 30-90 completed intercept surveys from each hub.

The intercept surveys explained the project and asked participants about their commute and demographic information. MIG then made follow-up calls to selected survey respondents to obtain the route, time and frequency of each candidate's commute. Participants were offered $75 for participating in the focus group and refreshments were provided.

MIG recruited Part B focus group participants electronically by placing an advertisement on Craigslist, www.craigslist.org, a highly robust on-line community in the Bay Area. MIG's goal was to recruit 18 participants to travel prescribed routes that would take them through one or more of the five prototype hubs. The ad offered $200 for participants to travel through the designated hub(s), complete a travel diary, and participate in the focus group. No partial compensation was offered. MIG received over 600 replies to the ad and contacted those eligible (infrequent transit users) to participate in the study.

The participants for Part C focus groups were selected from a combination of Craigslist respondents and intercept survey respondents to create a group of frequent, occasional and rare transit users. Participants were offered $60 compensation for their time.

Key Findings and Recommendations

A complete analysis of customer experience research findings to date yields the following recommendations for improvements related to signage and wayfinding; real-time information; transit information at a variety of access points; and amenities at the hub stations. The analysis is based on the experiences of frequent transit users, infrequent transit users, and novice users as reported in the focus groups and travel diaries. These recommendations will benefit all users, but they are separated by user group to distinguish which group (frequent or infrequent users) would benefit most from each change.

Key Findings and Recommendations From Parts A, B and C

Signage / Wayfinding

Frequent Users

- Install signage to inform passengers which train will arrive on which platform before they are on the platform. San Jose participants noted the time delays that occurred while they located their train, which does not arrive on the same track each day. San Jose passengers requested digital signs in the tunnels specifying when and where their train would arrive.
- Keep all fare gates open. Crowded or closed gates at Dublin, San Francisco and El Cerrito stations were considered a barrier and made it difficult for some travelers to make their transit connection.
- Consider a direct passageway to travel between BART and MUNI platforms in San Francisco. Participants described the delay and inconvenience that occurred when they transferred from BART to MUNI light rail; they have to walk up two levels, exit BART, enter MUNI and walk back down one level.

Infrequent and Novice Transit Users

- Install directional orientation signage to help a passenger determine where, for example, the southwest corner of the station is located; 511 describes most bus stops locations based on their north, south, east, or west orientation.
- Post the rule of "stand on the right and pass on the left" so new riders know how to provide access for those needing to move more quickly up or down the escalators. Less experienced travelers were often unfamiliar with the unwritten rule to "stand on the right and pass/walk on the left."
- Improve signage that directs passengers to elevators and escalators.
- Redesign signage to be more colorful and bolder, possibly utilizing universal symbols in addition to words.
- Install signs directing riders to and inform them about transfer machines.
- Post bus fare at bus stops and the requirement to have exact change.
- Install supplemental directional and transit signage explaining where to wait, exit the station and find connecting transit. Travel Diary participants (infrequent users) noted that consistent repetitive signage was helpful to their experience. Directional and platform signage gave travelers confidence that they were in the right place.

- Design signs to look consistent between stations in terms of font, layout, size, etc., and make the agency logo visible and match the accent coloring to the logo.

RealTime

Frequent Users

- Install RealTime at stations above and below ground. Riders want to know when their transit will arrive before entering the hub or paid areas. The information could allow a passenger to make alternate plans or complete an errand depending on the wait time.
- Provide RealTime displays that consolidate information for the different agencies and modes of transit available at the hub. Participants frequently referenced their preference for displays similar to those at the airport that show all the arrival or departure information.
- Ensure accuracy of RealTime information. Participants were disappointed and confused when it was obvious the RealTime display was incorrect, for example, during delays when station announcements were providing more current information than the displays.
- Utilize already installed digital platform displays to show schedule information where RealTime information is not available.

Infrequent and Novice Transit Users

- Provide more frequent updates. Travelers were reassured when they received information that was updated at regular intervals.

Transit Information

511 and 511.org

Frequent Users

- Address the problem of 511's voice recognition software not working in loud transit stations. Provide the touch-tone response option at the beginning of the message.
- On 511 phone, make the option to use the phone's keypad instead of the caller's voice more obvious to callers and enhance the function to allow callers to type in locations and options from their phone's keypad.

Infrequent and Novice Transit Users

- Program 511.org to be less particular about origin and destination entries.
- Provide opportunities to speak to a live operator. Participants preferred to use agency specific telephone information sources over 511 because they could more easily reach a live operator. Establish hours of operation that correspond to commuters' early morning and late night hours of travel.
- Consider incorporating on-line map features similar to those available on Google Maps or Map Quest. Many participants used these maps as a starting point for

their trip planning and described how when they mapped their destination they also received information about nearby transit resources.

- Publicize the variety of features available on 511 and 511.org. Participants were generally aware of 511 and 511.org but were surprised by the variety of features they could access. For example; some participants were aware that 511 provided information about traffic conditions, but were unaware they could also get information about public transit. Bicyclists spoke highly of the information about bike routes on 511.org.
- 511.org should clearly state that itinerary suggestions are dependent on the inputted departure and/or arrival time and add a function where users can receive three alternative itineraries during a specified time range.

In Station Information Cases

Frequent Users

- Place more paper schedules, posted schedules and maps in all stations and at all bus stops.
- Promptly update schedules in information cases and bus stops to match with actual operation times.
- Improve local area maps and display information in more prominent areas. Many participants were surprised to learn how close they were to nearby services and local landmarks. For example, there is little information at the San Rafael Transit Center to indicate how close riders are to the downtown. Especially during a long transit wait, participants may be able to complete errands or purchase food or drink at nearby businesses. The San Francisco Embarcadero station has a detailed map of the local area, but few participants noticed its location.

Infrequent and Novice Transit Users

- Post more and larger maps and schedules frequently throughout the station. For example, BART users wanted to see the regional BART map and schedule repeated on station platforms and outside the paid areas.
- Clean and maintain Regional Transit Information Center displays and agency Information Cases to enhance existing transit information. Shade alternate rows of schedule information and minimize the distance between the printed materials and the Plexiglas to reduce glare and improve readability. Specifically upgrade displays at El Cerrito and San Rafael.

En Route Trip Planning

Frequent Users

- Supply paper booklet schedules of all connecting agencies at all major transfer stations.
- Improve inter agency transfer coordination (e.g., have a bus departure time be 5 minutes after a specific train arrives)

Infrequent and Novice Transit Users

- Train transportation agency representatives at each hub to answer questions about connections and scheduling questions for all the operators accessed through the hub. Many customers look to station agents to answer transit and destination questions and expect an informed, courteous answer.

Amenities

Frequent Users

- Implement a universal fare card such as TransLink to minimize the time spent on purchasing tickets or securing transfers.
- Maintain and quickly respond to problems with transfer machines, validator machines and fare gates. Even one transfer machine out of order can have a significant impact on a rider's ability to make a connection (especially at El Cerrito and San Rafael).
- Consider adding or expanding retail and food service in stations during commuting times (5am-9pm).
- Install more and safer bicycle parking and higher capacity bicycle racks on buses, especially at El Cerrito, San Rafael and Dublin stations.

Infrequent and Novice Transit Users

- Install more change machines that handle a variety of denominations. Currently there is no change machine at San Rafael and with no available RealTime features, passengers have no way to know if there is time to get change from a store. At other stations, passengers could get quarters for a $1 bill or receive $5 bills for a $20 or $10 bill, but there was no place to change a $5 bill to $1 bills.

Other Recommendations Outside the Project's Scope

Regular, Infrequent and Novice Transit Users

- Address the presence of panhandlers at the entrances and exits of the San Francisco Embarcadero hub. Participants noted they felt unsafe having to pass panhandlers, especially where stairs or escalators narrowed the passage.
- Address problems from demagnetized tickets. When a high value BART ticket was demagnetized, passengers could not exchange it for a ticket of the same value; they were required to add money and purchase another full high value ticket. This was a barrier if the passenger was not traveling when the transit store was open. Recommended solutions would be longer Transit Store hours and allowing the exchange of the demagnetized ticket for the same value.
- Extend service at night and on weekends.
- Equip transit to carry more bicycles. A San Rafael participant, who used his bicycle, was limited by the availability of space on the bus bike rack; if it was full, he had to take the next bus, often a 30-minute wait.
- Improve maintenance of elevators and escalators.

- Clean restrooms more frequently. San Francisco riders requested access to the existing restrooms that are closed for security purposes.
- Install more benches and shelter from the elements. The circular concrete benches in the BART stations were considered insufficient and should be replaced with standard, straight benches that can accommodate more people.
- Educate all operators on proper and safe wheelchair lift operation. When drivers do not know how to use the lift properly, it results in delays for all passengers on the bus.

PART A – Investigating the Frequent Transit User Experience

Purpose

The purpose of the focus group was to:

1. Identify problems or barriers that impact the user experience.
2. Identify existing features or characteristics that are working to support a seamless transfer and positive transit experience.
3. Ascertain customer preference regarding improvements, in areas such as way finding, amenities and scheduling.

Method

To recruit focus group participants, teams of two MIG staff visited each of the five prototypical transit hubs and conducted intercept surveys. To ensure that prospective participants had diverse commutes, staff conducted surveys at each of the five hubs from 6:30 am to 12:00 pm and 2:00 pm and 8:00 pm. Staff made an effort to recruit at different parts of each hub (i.e., train stops, bus stops, ferry landings, etc.). Participants responded on the spot or responded by phone, e-mail or fax at a later time. From each hub, MIG received 30-90 completed intercept surveys.

The intercept surveys explained the project and asked participants about their commute and demographic information. MIG then made follow-up calls to selected survey respondents to obtain the route, time and frequency of each candidate's commute. With this information MIG staff selected a group of 14-18 users for each hub who were diverse in their demographics, use of operators, and commute routes. One participant used a wheelchair. Participants were offered $75 for participating in the focus group and refreshments were provided.

Each focus group ran from 6:30-9:00 pm on a weekday. MIG facilitators met focus group participants at a designated place in each hub. The focus group started with a 10-20 minute station orientation tour to point out and name station signage and amenities. The purpose of the tour was to create a common vocabulary for station features that would be discussed during the focus groups.

After the tour, the facilitators and the participants walked to a nearby meeting room to start the discussion. The MIG facilitators welcomed participants and explained how the focus group would work. The facilitators led participants through a detailed discussion supported by a five-part questionnaire, which was distributed at the start of each segment. After completing a specific section of the questionnaire, each section was discussed separately.

The following chart details the participants of each focus group.

Focus Group Participants		Dublin/ Pleasanton Station	San Francisco Embarcadero	El Cerrito del Norte	San Rafael Transit Center	San Jose Diridon Station	TOTALS
Attendance	**RSVP Yes**	11	13	14	15	15	68
	Attended	8	11	13	11	15	58
Gender	**Male**	3	6	6	5	11	31
	Female	5	5	7	6	4	27
Race / Ethnicity	**African American**	3	4	4	1	3	15
	Asian	3	1	1	0	2	7
	American Indian	0	0	1	0	1	2
	Latino	0	2	1	1	0	4
	Pacific	1	1	1	2	1	6
	White	1	2	2	6	7	18
	Mixed	0	1	2	1	1	5
Age	**18-35**	3	4	4	5	4	20
	36-54	5	4	4	3	9	25
	55+	0	3	5	3	2	13
Cities of Residence		Alameda	American Canyon	El Cerrito (2)	Novato	Discovery Bay	
		Castro Valley	Castro Valley	Fairfield	Oakland	Fremont	
		Hayward	Fairfield	Hercules (2)	Pacifica	Morgan Hill	
		Oakland	Novato	Richmond (5)	Petaluma	Redwood City (2)	
		Pleasanton	Oakland (2)	San Pablo	San Francisco	San Francisco (3)	
		Richmond	San Francisco (4)	Vallejo (2)	San Rafael (6)	San Jose (4)	
		San Francisco (2)	Vallejo			San Mateo (2)	

Report Organization

This report is a summary of the findings from the Part A focus group meetings. Its structure follows the format of the group questionnaire. The exact tallies and detailed participant responses can be found in Appendix A. The general findings are presented in the following sections:

I. Section 1 – Introduction
II. Section 2 – Trip Planning
III. Section 3 – Hub Information Services
IV. Section 4 – Barriers/Problems
V. Section 5 – Service Connections
VI. Closing Questions

I. Section 1 – Introduction

Section 1 was designed to collect factual information about participants' transit usage. A total of 58 individuals participated in the five focus groups. Participants were seasoned travelers who used multiple operators on a regular basis. They were very familiar with the range of operators, fares, transfers, alternative routes and the unique features of the different hubs. Participants traveled 1-3 hours each way; many to avoid traffic and save on rising fuel costs. Other participants did not own vehicles and public transit was their only option. While participants were compensated for their time, it was clear to the facilitators based on the care and thoughtfulness of the responses that many participants were motivated to participate in the study by a genuine concern for improved public transit in the Bay Area.

Ninety-three percent (54 out of 58) used their specific study hub four or more days a week. All participants from the Dublin/Pleasanton (Dublin), San Francisco Embarcadero and the San Jose hubs were traveling to and from work. Participants from the Dublin and San Jose groups used the hubs exclusively for work travel whereas participants from the El Cerrito Del Norte, San Francisco and San Rafael hubs selected additional purposes for their travel including: school, business travel, visit family/friends, shopping errands, and leisure/recreation.

General Impressions of the Hub

The MIG facilitator asked participants to described their general impressions of the hub in two to three words. The following are impressions shared most frequently.

- Dublin - Crowded, clean, convenient
- San Francisco - Crowded, confusing, convenient but not well coordinated
- El Cerrito - Busy, accessible, not always safe
- San Rafael - Busy, loud, dirty, functional
- San Jose - Spacious, efficient, poor signage, outdated

Participants rated their overall experience passing through the hub on a numerical scale from 1-5 with 5 equaling totally satisfactory. All participants from the San Rafael and Dublin stations ranked the hubs a 4 or 5. Most participants from El Cerrito (11 out of 13) were satisfied. Users from the San Francisco and San Jose stations were less satisfied; where almost half of the users rated their station experience below neutral (1 or 2).

II. Section 2 – Trip Planning

Trip Planning Information Sources

The chart below details how users from each hub planned their trip. Many respondents listed more then one method. Response rates of 30% or higher are in bold.

Trip Planning Method	Dublin Pleasanton	SF Embarcadero	El Cerrito Del Norte	San Rafael	San Jose
Schedule Booklets	**37.50%**	**45.45%**	**46.15%**	**72.73%**	**73.33%**
Kiosk / Information case	**37.50%**	18.18%	15.38%	0.00%	20.00%
Real Time	12.50%	9.09%	0.00%	0.00%	0.00%
Station Agent	0.00%	9.09%	15.38%	9.09%	6.67%
Another Rider or Friend	12.50%	18.18%	0.00%	18.18%	6.67%
Agency-Specific Phone	0.00%	9.09%	0.00%	9.09%	0.00%
Agency-Specific Website[1]	**87.50%**	**45.45%**	**38.46%**	27.27%	**53.33%**
511.org	25.00%	27.27%	7.69%	27.27%	13.33%
511 (phone)	0.00%	9.09%	0.00%	9.09%	0.00%
Trial and Error	0.00%	9.09%	0.00%	0.00%	0.00%
Radio	0.00%	0.00%	0.00%	0.00%	6.67%
# of People in Group	8	11	13	11	15

Commuters from San Jose and San Rafael depended heavily on the printed schedule booklets. Most participants from Dublin used an agency-specific website. Trip planning by participants from San Francisco, El Cerrito and San Jose's trip planning was completed primarily through an agency website or with a schedule booklet.

Passengers at El Cerrito rarely asked other riders for help, possibly due to their perception of the station as unsafe. Few participants at San Rafael used the information case near the hub; it was in poor condition and was cracked and patched up with long strips of duct tape that covered up the schedule. The remaining cases were in good condition with up to date schedule information. Cases at the El Cerrito Del Norte Station were in poor condition and contained incomplete information.

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[1] When users visited an agency-specific website they were often guided to 511.org (Trip Planner). This count only considers the website originally visited.

Ease of Trip Planning

In commenting on the ease of trip planning, some riders stated that the schedules were difficult to read. The schedules often contained long rows of information that were difficult to follow across the display.

511.org received mixed reviews; some participants "can just put the info into the computer and be give a detailed trip" while others were annoyed that "the trip planner did not recognize some street names or intersections." Also, some agency websites automatically refer a user to 511.org so it may not be clear which web-based trip planning feature they were using. One respondent "spent too much time on the computer doing [trip planning] research because each site diverts you to another site." Eventually this respondent called the transit agency.

Participants at the San Rafael Transit Center had a wide variety of traveling schedules and noted that trips involving Golden Gate Transit were extremely difficult "if you did not have a 9-5 job in San Francisco's Financial District." Because of the loud noise at the San Rafael Transit Center, participants found it extremely difficult to call transit agencies or successfully use 511's voice recognition program on their cell phones. Participants would also appreciated having BART and other agency schedule information at the San Rafael Transit Center since several of them took Golden Gate Transit buses to and from other connecting modes.

Participants from all hubs commented that their time spent planning their trip was nullified when a bus or train was off schedule resulting in a missed connection.

Participants suggested the following trip planning improvements:

- Program 511.org to be less particular about origin and destination entries
- Better coordinate interagency transfers (e.g., have a bus departure time be 5 minutes after a specific train arrives)
- Add shading or grid marks to printed schedules in displays; this would help a reader better distinguish the information across rows, which were sometimes lengthy

Regardless of how familiar or routine their travel had become, participants said their trip planning efforts were on-going because of regular agency schedule changes, route detours, and need to seek transit alternatives during delays.

III. Section 3 – Hub Information Services

General Comments

When asked about the general hub information services, most participants from each station reported problems with the signage at stations and bus stops. Signs were described as "disorganized", and "hard to locate." The "dismal color setting (black) is easily missed by a quickly moving person." Most signs were considered too small. Especially in a station as large as San Francisco, participants would appreciate more frequent signage. Respondents requested more and larger schedules and system maps "above and below ground." Delays attributed to the time spent looking for a schedule often contributed to a missed connection. Also, during peak travel, a regular traveler could be slowed by a confused visitor or infrequent traveler looking for a sign or schedule and end up missing their connection.

Participants noted some simple improvements or corrections that could address these issues. For example, at the Dublin station, the schedule is all the way at one end of the platform; moving it to the middle would make it more accessible. At the El Cerrito Del Norte station, the wrong maps were installed at the AC Transit stops; the maps at the shelters are actually for the El Cerrito Plaza station instead of the El Cerrito Del Norte Station. At San Jose Diridon, "the same trains are often on different tracks each day and there is no sign stating which track to find each train." A regular user of the San Francisco Embarcadero BART station noted they "had more information about Kaiser Permanente than they did about BART." More frequent and better placed signage throughout the station would address this concern.

Hub Information Features

Participants rated the helpfulness of different transit information features in their hub[2]. Local area maps received similar ratings from all five hubs. Most respondents commented the maps were not very helpful or they were not noticed. The local area maps, if available, provided limited information about key features. Participants were often surprised to learn how close they were to key landmarks or local services.

Dublin Most passengers at this hub found the schedule information, platform signs, information kiosk, RealTime and transit system maps to be "very helpful", with only 1-3 participants providing a lower rating. Most participants did not notice the case identified as the regional information case, so it was considered "not helpful."

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[2] See the appendix for rating counts of each hub's features.

San Francisco Ratings of the San Francisco Embarcadero station varied widely since participants experienced so many different areas of the station (ferry landing, MUNI buses, underground MUNI trains, BART, Golden Gate Transit, SamTrans, AC Transit, etc.). Most participants commented that schedule information, transit system maps and RealTime information were all "somewhat helpful." BART RealTime was considered accurate, however the MUNI RealTime diagrams were not trusted. All participants commented favorably about the BART platform signs, with almost half of the group saying they were "somewhat helpful - could be improved." The information kiosk and RTIC were not considered very helpful since most people "did not see or notice" them. Participants commented overall on the limited signage, given the stations' size and length.

El Cerrito Del Norte Most participants rated the schedule information, platform signs and RealTime as "somewhat helpful" and "very helpful." The transit system maps, especially the AC Transit maps need to be replaced with the correct maps. The cases and signage overall at El Cerrito were in poor condition. The cases, with some panels empty, featured cracked Plexiglas cases patched with duct tape. The overall appearance was that of being uncared for, making it difficult for a passenger to trust the content of the information provided.

San Rafael Transit Center Respondents were generally satisfied with schedule information and platform signs at the San Rafael station. However, one case was in poor condition with duct tape over the schedule covering up a crack and part of the schedule. The station does not have an information kiosk or RealTime features. Six of the ten respondents "did not see or notice" the regional transit information case and only one found it "very helpful." This station has several platforms and no single entry or exit point, which makes it possible that a passenger could go there daily and never visit the main platform where much of the information is displayed.

San Jose Diridon Most respondents, and for some features, all 15 respondents, rated the information features as "did not see or notice," "not helpful" or "somewhat helpful." From day to day, riders often did not know on what track they would find their train. Passengers were also frustrated that the RealTime technology and signs that were available offered limited information, providing only the current time, safety warnings and a notification of "testing." Some participants requested the VTA connecting routes be posted in the regional case because the "VTA light rail and bus stops are so far away from each other."

Travel Planning on the Go

The MIG facilitator asked participants how they preferred to get travel information while on route. Dublin passengers tended to keep schedules with them, refer to the RealTime platform signs and announcements and/or ask an operator for information. San Francisco and El Cerrito passengers referred to posted signs and RealTime in the station, called 511 on their cell phones, sought out a paper schedule, or asked another rider. At San Rafael, most passengers referred to their personal copy of a schedule or checked maps and schedules at the station. San Jose passengers called an agency or 511 on their cell phone, asked other riders or an agency representative, listened for announcements or look at the posted schedules or paper schedules.

When asked what features were most helpful, riders from every hub responded that they use the printed booklet schedules and posted schedules. Dublin, San Francisco and El Cerrito riders all found the audible and visual RealTime to be the most helpful feature for planning while in route.

The least helpful feature for Dublin and San Rafael riders was the local area map because "it was very tiny and did not clearly show the local bus lines." Since the San Francisco Embarcadero station is so large and there is only one regional transit case, riders noted that, "its location is not on my path so I didn't even know it was there." Passengers were confused by the signage at Embarcadero, especially the exit signs. San Francisco and El Cerrito riders found the bus timetables ineffective since most buses did not adhere to the timetable. El Cerrito passengers found the regional transit case to be "poorly organized." San Rafael riders described the platform signs as not helpful because "not all the routes have the destination written down." San Jose riders requested improved placement and content of the schedules and noted, "the after hours bus schedule info is not there, it is geared towards day shift workers."

There were some hub information feature improvements that passengers from all stations felt would greatly improve their experience getting information at the hub. These suggestions included:

- RealTime at all stations above and below ground. Riders wanted to know when their transit was coming before they entered the hub or paid areas. The information could allow a passenger to make alternate plans or complete an errand depending on the wait time.
- More and larger maps and schedules. Participants wanted to see maps and schedules repeated throughout the station and they should be larger and easier to read. For example, BART users wanted to see the regional BART map repeated more frequently on station platforms and outside the paid areas.
- A transportation agency representative at each hub who could answer questions about connections and scheduling questions for all the operators accessed through the hub.
- More colorful and bolder signage, possibly utilizing universal symbols in addition to words.
- Orientation signage to help a passenger determine where, for example, the southwest corner of the station was located; most bus stops locations are described based on their north, south, east, or west orientation.
- Schedule information and route maps at every stop.
- New or rehabilitated information cases at El Cerrito and San Rafael. Several of the information cases at El Cerrito needed to be cleaned, repaired and maintained. At San Rafael, the case with regional transit information was in poor condition.

Hub Amenities

Most participants regularly used the amenities available at hubs including: restrooms, telephones, bus shelters and benches. Participants from all hubs noted the amenities could be added or improved to enhance their transit experience, especially since these riders traveled 1-3 hours each way. The following suggestions were made regarding hub amenities:

- Restrooms. Cleaner restrooms would go a long way toward improving the transit experience. San Francisco riders requested access to the existing restrooms that are closed for security purposes. Several participants doubted that the restroom closures greatly enhanced their safety. Passengers requested more benches and shelter from the elements. The circular concrete benches in the BART stations were considered insufficient and should be replaced with standard, straight benches that can accommodate more people.
- Passengers from Dublin, San Francisco and El Cerrito requested cleaner elevators and escalators with better signage directing passengers to them.
- Some El Cerrito, San Rafael and Dublin passengers requested more and safer bicycle parking and higher capacity bicycle racks on buses.
- Participants from all five hubs requested more change machines and machines that handled a variety of denominations. Currently there is no change machine at San Rafael and with no available RealTime features, passengers have no way to know if there is time to get change from a store. At other stations, passengers could get quarters for a $1 bill or receive$5 bills for a $20 or $10 bill, but there was no place to change a $5 bill. Participants suggested some additional retail amenities and longer hours for the available food service.
- Address the presence of panhandlers at the entrances and exits of the San Francisco Embarcadero hub. Participants noted they felt unsafe having to pass panhandlers, especially where stairs or escalators narrowed the passage.

IV. Section 4 – Barriers / Problems

During peak hours, all five hubs were considered crowded, but manageable as long as people were moving at the same pace in the right direction. The crowd became a barrier when someone who stopped to figure out where they were going slowed the flow of passengers. For a passenger making a tight connection, this slowdown often meant the difference between whether they made their transit connection or not. Participants from the El Cerrito and San Francisco focus groups described the narrow escalators as a barrier because they slowed down their movement. Less experienced travelers were often unfamiliar with the unwritten rule to "stand on the right and pass/walk on the left." Posting this rule so people know to move to the side could help provide access for those needing to move more quickly up or down the escalators and stairways. Crowded or closed gates at Dublin, San Francisco and El Cerrito stations were also considered a barrier and made it difficult for some travelers to make their transit connection.

A San Rafael participant, who used his bicycle, was limited by the availability of space on the bus bike rack; if it was full, he has to take the next bus, often a 30-minute wait. A wheelchair user in the San Rafael group described his experience with drivers who did not know how to use the wheelchair lift properly resulting in delays for all passengers on the bus. San Francisco participants described the delay and inconvenience that occurred when they transferred from BART to MUNI light rail; they have to walk up, exit BART, enter MUNI and walk back down. San Jose participants again noted the time delays that occurred while they located their train, which does not arrive on the same track each day. San Jose passengers requested digital signs in the tunnels specifying when and where their train would arrive.

BART to Bus transfer machines at El Cerrito and the 10-ride pass validator machines at San Jose were regularly out of order. Passengers must then go to a different part of the station to locate a machine that works, causing delays, confusion and excess passenger traffic in the station area. Participants also identified some ticketing issues that were barriers to the transit connection. Passengers often lost time locating a ticket machine and finding appropriate change. Participants experienced delays buying tickets in different locations when they changed operators. Demagnetized tickets were also a source of delay and frustration. When a high value BART ticket was demagnetized, passengers could not exchange it for a ticket of the same value; they were required to add money and purchase another full high value ticket. This was a barrier if the passenger was not traveling during transit store operating hours.

All of the focus group participants spoke English, however, several suggested that language was a barrier to locating transit connections at many stations. Participants suggested that schedules and signs could be in additional languages including: Spanish, Mandarin, Cantonese, Hindi, French, Vietnamese, Tagalog and Korean, depending on the demographics of the specific hub's customer base.

V. Section 5 – Service Connections

The Transit Transfer Experience

MIG facilitators asked participants to rate their overall transit connection experience at their hub. Responses rates of 30% or higher are in bold.

Transit Connection Experience

(1= Totally Unsatisfactory, 5=Totally Satisfactory)

Rating	Dublin Pleasanton	San Francisco Embarcadero	El Cerrito Del Norte	San Rafael	San Jose Diridon
1	25.00%	0.00%	0.00%	0.00%	0.00%
2	12.50%	18.18%	0.00%	18.18%	13.33%
3	0.00%	**54.55%**	**33.33%**	27.27%	**46.67%**
4	**37.50%**	27.27%	**41.67%**	27.27%	20.00%
5	25.00%	0.00%	25.00%	27.27%	13.33%

Passengers at Dublin had the shortest wait for a transfer, mostly 0-10 minutes. The majority of San Francisco, Dublin and El Cerrito passengers waited up to 25 minutes. Four of the eleven San Rafael passengers waited 10-25 minutes and six of the San Rafael passengers waited 25 minutes to over an hour for their transfer to come. San Rafael passengers must wait outdoors with limited shelter.

MIG facilitators asked the participants if they had information about when their connecting service would arrive. Participants from Dublin had information, but noted that their transit did not arrive on time. San Francisco participants dismissed the transit information since they noted the buses did not follow the schedules. El Cerrito and San Rafael passengers had little information, but would consult their schedules when they arrived at the station. Most people in San Jose knew when their transit would arrive because they were well informed through their phones, computers and paper schedules.

People were generally satisfied with the punctuality of the BART, Caltrain and Ferry systems, however, they would like to see consistency in scheduling and better coordinated transfers to the local bus and light rail systems. San Rafael participants requested more frequent bus service and participants from all the focus groups requested extended service hours at night and on weekends.

Participants in all five groups requested a RealTime display with complete operator information for each station. They also suggested that the display would be most effective if it were placed outside the paid area. Participants in all five focus group requested a universal transit card since they used 2-4 different agencies each day. Participants were excited to hear about TransLink, but were disappointed to learn that the program was not yet available. One San Francisco participant was part of the TransLink pilot program and he spoke highly of the system. Another participant noted that she had to decline an opportunity to participate in the TransLink pilot due to a change in her job location, a decision she found unfortunate due to the convenience of TransLink.

VI. Closing Questions

The MIG facilitator asked, "To what extent do you feel you are a customer of a particular transit agency or have a special relationship with a transit agency?" Participant responses fell into three basic categories, with their response influenced mostly by their customer service experience. A few participants responded affirmatively and positively. One participant noted she considered the operators to be "like family" since she saw them every day. Most participants considered themselves a customer of the all the operators they used; but their level of satisfaction varied. About fifteen percent did not consider themselves a customer of any agency and noted they only used the operator because they had no other transit options.

There appeared to be a strong correlation between customer service and operator "loyalty." Participants with generally positive experiences acknowledged with little prompting a customer relationship with the agency. Users with inconsistent customer service experiences based their relationship more on frequency of use. They acknowledged their daily interaction with a transit provider and noted they had a relationship, but it was at times dysfunctional. Those participants who shared negative views of their transit experience were consistent in their lack of acknowledgement of a relationship with a transit provider.

To close the focus group, the MIG facilitators asked participants to identify their top priority improvement for their transit hub. The most frequently mentioned improvements were:

Dublin Pleasanton:

- More open fare gates
- Punctuality of buses
- Frequency of buses
- More benches

San Francisco Embarcadero:

- Improved signage throughout the Embarcadero hub area
- A schedule that MUNI buses follow
- RealTime outside the station
- TransLink (universal payment card)

El Cerrito Del Norte:

- Cleaner stations, specifically restrooms, stairways and elevators
- More fare gates
- Faster and more frequent maintenance of transfer and ticket machines

San Rafael:

- Information booth with Golden Gate Transit and other connecting agency's information
- Late night and weekend service
- Install a change machine
- Cleaner restrooms
- Design schedules to avoid missing GGT and other agency connections

San Jose Diridon:

- RealTime signs that provide accurate arrival times
- Improved restrooms
- Station representative who could answer questions about all transit agency schedules
- More signage

PART B - Investigating the Infrequent Transit User Experience

Purpose

The purpose of the travel diary and focus group was to:

1. Identify the travel planning tools a new or infrequent user is likely to try.
2. Determine how current transit information, signage and wayfinding features influence their success at making transit connections and reaching their final destination.
3. Identify problems or barriers that impact the user experience.
4. Identify existing features or characteristics that are working to support a seamless transfer and positive transit experience.
5. Ascertain customer preference regarding improvements, in areas such as way finding, amenities and scheduling.

Method

MIG recruited focus group participants electronically by placing an advertisement on Craigslist, www.craigslist.org, a highly robust on-line community in the Bay Area. MIG's goal was to recruit 18 participants to travel prescribed routes that would take them through one or more of the five prototype hubs. The ad offered $200 for participants to travel through the designated hub(s), complete a travel diary, and participate in the focus group. No partial compensation was offered.

The Craigslist ad did not indicate whether an experienced or infrequent traveler was preferred. Participants were also asked to provide demographic information including age, gender, ethnicity and education level, which allowed MIG to identify a group of potential travelers that was highly representative of the Bay Area's diversity and covered the geographic range of the survey.

MIG received over 600 replies to the ad. Only thirty percent met the initial screening criteria of being an infrequent traveler. There was a limited pool of respondents who could provide feedback on the San Rafael Transit Center. MIG reposted the ad with an emphasis on attracting potential participants from the North Bay and Marin County and found a suitable number of candidates.

MIG selected candidates for the focus group based on their proximity to one of the five hubs and availability to travel at a range of times on weekdays. MIG only selected participants who indicated that they rarely used public transportation if at all and no more than four times a year. After screening approximately 50 respondents, MIG invited 28 people to participate in the study. A twenty-five percent drop-off rate was assumed and MIG over-recruited South Bay travelers since they would have to travel the furthest for the focus group in October. Ten people did not complete their travel or diary; most of them were from the South Bay. At least one participant indicated that after doing some trip planning and seeing the travel options available, the $200 incentive was not enough to entice her to travel the prescribed route. Eighteen people, the goal for the study, completed their travel diary and attended the focus group. Detailed travel routes are available in the appendix. The focus group was held on October 5th from 7-9 pm in the in Board Room of the San Francisco Embarcadero YMCA. The location was chosen due to its availability and proximity to public transit that reached all five hubs.

Travel routes were designed to compel a traveler to experience certain combinations of transit and operators without revealing specific trip planning details. Prior to making assignments, MIG tested all routes with the participants' home address using various trip planning features to ensure they were realistic. For example, a traveler might have been instructed to take "non-BART" transit to a designated hub and then transfer to an operator of their choosing to get to a final destination. This prevented participants from selecting a more direct route that might have avoided a requested transfer at a designated hub. Travelers were encouraged to use a variety of operators and if possible choose a different route or operator for the return trip. This made some aspects of trip planning a little more complex since some trip planning features could not respond to these requests. Since the travel for some routes did not always follow typical travel patterns, the trip planner, whether phone (voice recognition or live operator) or web based could not process some information requests.

The MIG facilitators welcomed participants and explained how the focus group would work. The facilitators led participants through a detailed discussion about the four aspects of their travel experience. Participants were asked to refer to their trip diaries as needed.

The facilitators asked the participants to introduce themselves and describe the route they traveled. Routes were then mapped on a large regional transit map to show the broad geographic area covered by the participants. Participants were then asked to describe their trip planning experience. After the trip planning questions, the facilitators split the participants into two groups of nine each to allow for more in-depth discussion for the remainder of the focus group. The results of both groups' discussions are combined in the related sections of the report. Some aspects of the trip are covered in multiple sections of the diary to ensure a comprehensive response and to capture participant impressions as they changed depending where they were in their travel experience. For example, a participant might not comment on their fare purchase until they were at the point in the trip where they were rushing to make a transit connection or find a transfer machine.

Report Organization

This report is a summary of the findings from the focus group meeting. Its structure follows the format of the travel diary. A transcription of each travel diary is available in the appendix.

I. Section 1 - Trip Planning

II. Section 2 - Travel

III. Section 3 - Transit Connections

IV. Section 4 - Transit Hub or Main Transit Station

I. Section 1 – Trip Planning

Participants were asked to describe their trip planning experience including where they went for information and the length of time it took to plan their trip.

Information Sources

Sixteen of the eighteen participants used the web for trip planning information. Six used 511.org, two used agency websites (AC Transit and Caltrain) and the remainder relied on a key word search using a search engine such as Google or Yahoo. One participant located www.eastbayferry.com in the phone book. Participants indicated that some trip planning features could not accommodate their routes because they did not mimic typical commuter routes. At least one participant addressed this by dividing the trip into two components and using the trip planner for each. Some participants responded by using multiple sources such as agency websites and phone information services. One traveler shared that she was able to use the "travel options" feature on 511.org to tailor her trip through a specific hub and use requested operators. Some participants expressed frustration that they needed a precise address to use the trip planners. While they trip planner may contain features that would have allowed them to work around this, participants did not discover them during their use.

Planning Time

While participants were selected based on their availability to travel during morning, mid-day and evening hours, most participants elected to travel during non-peak daytime hours. Many described their travel as an "adventure", with several using the trip as an opportunity to visit a new area of the region, shop and enjoy a local restaurant. One participant produced a scrapbook of her experience. The choice of traveling at non-peak hours influenced the frequency of transit connections, waiting times and availability of specific connections. For example, a travel route MIG selected because it could be completed in about 60 minutes during peak-hours, was found to take more than 2 hours during non-peak hours. However, since the participants were being compensated and were not under serious time constraints, they were willing to complete the routes and provide their observations.

Participants supplemented their trip planning activities with conversations with friends who were experienced transit users, transit operators and other passengers. Those who contacted transit agencies reached a "live operator" and were generally satisfied with their response. A few operators discouraged the participant from traveling the prescribed route since it did not seem expedient to them. One station agent told the participant to "get in his car and drive" if they wanted to get there.

When asked about their trip planning experience, eleven participants described it as easy to very easy, five described it as moderately easy, and two participants described their trip planning as extremely difficult. Fourteen participants spent thirty minutes or less planning their trip. Four participants spent 45 minutes to an hour or more planning their trip.

II. Section 2 – Travel

The facilitators asked participants to discuss their experience while traveling. This included the time spent purchasing a ticket, waiting for transit and their travel experience in general. They were asked to keep track of how long their trip took. Participants were asked if they had the information they needed and if not, to describe the information they would have liked.

Introduction

One participant opened the conversation by saying, "The worst thing about public transit is the public." With this comment the facilitators requested that participants refrain from sharing "war stories" during the limited time available for the focus group unless the person or experience influenced their ability to make a transit connection or complete their travel. Participants were asked to focus the discussion on the aspects of their trip related to the hubs and related station features.

Most participants elected to travel on weekdays during non-peak hours and on days when the weather was pleasant. When asked if they would have traveled if the weather were poor on their selected date, all the participants in one group (nine participants) responded that if it were raining, they would have postponed their trip or dropped out of the study.

Information Sources

Participants relied on signage and information features in and around transit connections and they consistently validated their choices by asking other passengers or the operator to confirm that they were on the right bus or train or were waiting in the appropriate spot. Participants were disappointed when they asked an operator for help and the operator was unable to answer questions about connections to other transit agencies. They expected agency staff to be better informed and able to answer a broader range of transit questions related to the hub or at the very least, connections to the operator's route. When signage was confusing, participants asked other travelers for information. However, a few participants missed their connections because it was not clear where they should wait. Participants noted they liked seeing consistent and repetitive signage. It provided a sense of confidence that they were going in the right direction. Several women participants stated that clear and repetitive signage provided them a sense of safety.

Participants, both men and women, consistently noted their willingness to ask operators and other passengers for directions. At least 50% of the participants asked operators and passengers to validate their travel decisions at every step of the way. Most passengers had successful interactions and received useful information. Negative experiences occurred when the traveler received either incorrect information or the operator did not know the answer to their question. One participant commented that the driver of his bus confirmed he was on the correct bus, but failed to inform him that the bus would change routes and destinations mid-trip while he was still on the bus. The participant noticed he was going away from his destination and was able to get off the bus before it had traveled too far.

Participants found the station announcements to be helpful, however in several cases, the announcer was difficult to understand.

Waiting Experience

Since participants were traveling a new route without time constraints, they had few negative comments about wait times and missed connections. They had no experience with what would be a normal wait time for the route. Most described their experience waiting for transit as non-eventful. A few participants noticed the lack of cleanliness of the stations while they were waiting. Participants noticed the RealTime features, such as those on the BART platforms, and found them to be prominent and helpful. One participant used www.nextmuni.com to get information about a transit connection in San Francisco. Participants would have found it helpful to have printed schedules and maps more readily available.

Fare Purchase

Many participants noted the trip planning features gave them some indication of how much their fare would be. There were limited issues purchasing tickets, with some participants noting the lack of change machines.

III. Section 3 – Transit Connections

The facilitators asked participants to describe their experience making transit connections with an emphasis on their ease in making connections, time spent waiting between connections, fare payment methods, and information needs.

Experience Making Connections

Participants had a range of experience making connections and their comments were generally positive. This was influenced primarily by the fact that they were not traveling under rigid time constraints and no experience with normal waiting time. Several had little or no waiting while others spent upwards of an hour waiting for a transit connection. A few travelers received incorrect information from an operator and waited at the wrong location missing their connecting transit. Signage at these locations might have helped to resolve their confusion.

Waiting Time

Several participants experienced very convenient connections, especially close to home. Participants waited about 5-10 minutes and their transit arrived on time. Participants who covered longer distances to meet up with a transit connection that was less frequent, for example, a ferry or train during non-peak hours, experienced the longest waiting times. Some confusion or an unanticipated detour (one participant stopped to take a photograph) resulted in some missed connections. Those with tight connections were obviously the most vulnerable- even a minor delay due to a misread sign or unclear direction from an operator resulted in some missed connections.

Fare Payment

When it came to paying the fare, participants noticed the lack of change machines, especially those taking one and five dollar bills. Some participants needed help understanding how transfers, ticket validation and other methods of payment worked. Since a transfer provided a substantial cost savings, some participants requested that more information be available about how these features worked. It appeared that most agencies assume a rider knows that buses do not give change and/or that tickets and transfers must be secured in advance. While this may be indicated on the outside of the bus or train, the notice was too late for several participants. They ended up overpaying or requesting change from other travelers.

Information Needs

Participants expressed a need for a wide variety of information. One noted that senior seating, while marked, was not enforced. Others found it difficult to locate transfer and ticket machines. Depending on the hub, participants had difficulty determining where to wait or what side of the station or platform to go to. Participants commented on a wide variety of wayfinding needs. No one feature was called out consistently and most participants ended up asking a person for help when wayfinding features did not meet their needs or they risked missing their connection while they tried to figure things out with the information available.

IV. Section 4 – Transit Hub or Main Transit Stations

This section was designed to elicit feedback on the travelers' experience passing through the five prototype hubs. Participants were asked to describe the features in the main transit station they noticed the most and comment on the parts of their trip they like the most and least. Participants were asked if they had enough information to get to their destination and to identify what would make their trip through the hub a better experience.

General Hub Comments

Participants noted the level of cleanliness in the stations, availability of restrooms and elevators and the demeanor of their fellow travelers. Participants commented on the unpleasant smell of diesel exhaust from buses and trains. Several participants shared their confusion entering the hub or navigating a ticket purchase. Supplemental directional and transit signage would have made it easier for the participants to figure out where to wait, exit the station or find connecting transit. Participants noted that consistent repetitive signage was helpful to their experience. Directional and platform signage gave travelers confidence that they were in the right place.

New and inexperienced travelers rely on a signage to help them navigate their entire route so it is important that their information needs are fully covered. Participants want to know where to go in the station, where to wait for transit, and they want the train, bus or boat to be properly identified or numbered so they know that they are getting on the right one. When they get off the train, bus or boat, they want to know how to exit the station and/or find their transit connections.

Participants thought some consistent look to the signage would be helpful, but what was most important was that it was repeated throughout their journey. When confused, they were willing to ask for help. However, they sometimes received poor customer service or did not get the information they needed. Participants expected agency staff to at a minimum be able to answer basic questions about transit connections to the operator's specific route. That combined with limited or unclear signage was a source of frustration and for a few; a source of missed connections as well.

Improvements

When asked to describe what it would take to improve their trip, participants focused primarily on actions that required an operator solution such as improved customer service, increased transit frequency, and improving station cleanliness. The need for improved and additional signage and wayfinding features as described above was noted throughout the focus group, but they were not perceived as solutions to these travelers' primary concerns.

About half the group said that based on their experience, they were willing to consider using public transportation more frequently. As a result of their positive travel diary experience, at least four participants took public transit to the focus group and they were willing to navigate a broader range of transit options. For some, the lack of familiarity with local transportation kept them from using public transit more frequently. However, most believed the time and cost of using public transit far exceeded the convenience of traveling by car. Participants frequently commented on the cost of public transit and several vocalized their assumption that public transit should be inexpensive- even subsidized to make it more desirable. Given rising fuel costs or a future change in work location, some participants may revisit the rationales that keep them from choosing public transit.

PART C – Improving Customer Use of Transit Information

Purpose

The purpose of the focus group was to find the most effective ways to provide information to a transit user while they are in the hub. Topics addressed included:

1. Printed materials
2. 511 phone and 511.org
3. RealTime features
4. Signage

Method

Due to the extremely positive response the Craigslist advertisement for Part B, MIG staff has access to a diverse pool of potential participants. MIG staff emailed or called interested candidates based on their proximity to one of the five prototypical transit hubs, demographic characteristics and transit usage. The focus group participants were frequent-, infrequent- and non-transit users. Additional participants were selected from the station intercept surveys completed for Part A of the study. For the South Bay focus group MIG posted an additional advertisement on www.craigslist.org recruit a more ethnically diverse group that was representative of the South Bay

Focus Group Participants		San Francisco	East Bay	South Bay	TOTALS
Attendance	**RSVP Yes**	16	15	15	46
	Attended	15	13	14	42
Gender	**Male**	9	5	9	23
	Female	6	8	6	20
Race / Ethnicity	**African**	3	3	4	10
	Asian	3	5	4	12
	Latino	3	2	2	7
	Pacific Islander	0	1	0	1
	White	5	2	3	10
	Mixed	1	0	1	2
Age	**18-35**	9	7	7	23
	36-54	6	4	6	16
	55+	1	2	1	4
Frequency of Transit Usage	**Never / Infrequent**	5	5	4	14
	Regular	10	8	10	28
Cities of Residence		Daly City	Alameda	Burlingame	
		San Francisco (14)	San Leandro	Fremont	
			Oakland (10)	Oakland	
			Richmond	Palo Alto	
				Pittsburg	
				San Jose (6)	
				Santa Clara	
				Sunnyvale (2)	

demographics. Below is a chart detailing the demographics of the focus group participants.

Participants received $60 for participating in the focus group and refreshments were provided.

Each focus group was held from 6:30-8:30 pm on a weekday. The facilitators led participants through a detailed discussion supported by a four-part questionnaire; with each part distributed at the start of each segment. After completing a specific section of the questionnaire, each section was discussed separately. In the last section, Transit Signage - Existing, participants were asked to comment on pairs of photos that showed an existing view of one of the five prototypical hubs and then a suggested signage improvement at that hub.

Report Organization

This report is a summary of the findings from the Part C focus group meetings. Its structure follows the format of the group questionnaire. The exact tallies and detailed participant responses can be found in Appendix C. The general findings are presented in the following sections:

I. Section 1 - Transit Information

II. Section 2 - Signage

III. Section 3 - RealTime

IV. Section 4 - Transit Signage - Existing

I. Section 1 – Transit Information

General Transit Usage

The first section asked about the participants' general interaction with public transit in the Bay Area and trip planning. Participants were asked about the frequency of their transit usage. As outlined in the chart in the Methods section, one third of the 42 total participants were infrequent transit users and two thirds were regular transit users.

Some participants used transit both on the weekend and weekdays, others used it exclusively during the weekend or exclusively during the week. Twelve of the fifteen riders from the San Francisco group used transit during the weekend, whereas weekend use was less frequent in the East Bay group and the lowest in the South Bay group. This was most likely because of the greater availability of transit during the weekend in San Francisco as compared to the East Bay and the South Bay.

Participants used a wide range of transit operators in the Bay Area, many riding more than one operator per trip.

Purpose	San Francisco	East Bay	South Bay
Travel to / from work	8	8	8
Travel to / from school	1	1	5
Business travel	4	3	3
Visit family or friends	4	2	4
Shopping / errands	8	2	4
Leisure/ recreation	8	3	7
Other	1	0	1

Transit Agency	San Francisco	East Bay	South Bay
AC Transit	X	X	X
BART	X	X	X
CalTrain			X
Company Shuttle			X
County Connection		X	
DASH			X
MUNI	X	X	X
SamTrans	X	X	X
VTA		X	X
Wheels		X	

Trip Planning

When asked how they would go about planning a transit trip to an unfamiliar location, almost all participants responded that they would use the internet, be it 511.org, Google Maps, or a specific agency's website. San Francisco participants said they would use a combination of methods, the most popular being the internet. Participants from the East Bay would plan their trips using the phone, web and schedule booklets. Only one person from the South Bay group said they would use the phone, with the majority of participants using the internet sites 511.org, an agency website or a web search.

Trip Planning Method	San Francisco	East Bay	South Bay
511 Phone	0	2	0
Agency Specific Phone	2	1	1
Phone Unspecified	2	0	0
511.org / transitinfo.org	5	3	3
Agency Specific Web	4	4	5
Web Unspecified	3	5	5
Schedule Booklettes	0	2	0
Station Maps / Schedules	2	0	0
Friends / Other Riders	1	0	1

Thirty-eight of the 42 total participants expressed that access to 24-hour transit information is "very important" or "important" to them. Most people preferred access via the internet, but many participants were also interested in phone access.

When focus group participants were away from the station or transit hub, they wanted to obtain information (about schedules, which bus/train to take, location to board transit, location to make transfer, RealTime arrival predications and fares) via web access from their home or work. When identifying which bus or train to take, San Francisco participants wanted to obtain information by calling a live operator or reading a printed map or schedule. South Bay participants were also interested in obtaining information from a printed map or schedule about schedules, which bus or train to take, location to board transit and location to make transfer.

The facilitator asked participants how they prefer to get information when they are at the station or transit hub.

Transit Information	San Francisco	East Bay	South Bay
TOTAL PARTICIAPNTS	15	13	14
Signage and maps posted in station	14	11	12
Information kiosks	13	8	8
Agency display cases	4	2	3
Ask an operator (or person in uniform)	11	6	11
Ask other riders	7	2	3
Web via cell or pda	0	1	2
Phone (cell or pay phone)	0	3	4
Announcements made by station agents	12	10	10
Other: please describe	0	1*	0

*Signs in the bus or BART

Participants from all three groups preferred to get information through signage and maps posted in the station, information kiosks and announcements made by station agents. About half of the San Francisco participants asked other riders for information and more than 70% said they would ask an operator. South Bay residents were also comfortable asking an operator.

When asked how important it was to be able to get information about travel alternatives such as different modes of travel or other transit operators, almost every participant, with the exception of one or two from each group, said that it is "very important."

When asked about their awareness of 511 and 511.org, most people from the San Francisco and South Bay groups were familiar with both the phone and web formats of 511. Although most participants from the East Bay had heard of the phone number 511, five out of the thirteen total participants were not familiar with 511.org.

Many participants have called 511 for traffic information and one participant from the East Bay had called it for bicycle routes and ride matching. Those who have used 511 to plan trips on transit appreciate the times they get to speak to a live operator.[3] Others used it, but were frustrated by the voice recognition program, especially when they were in a noisy transit station. Some East Bay participants suggested creating a feature that would allow a caller to use the keypad to avoid competing with surrounding noise. The option to use the phone's keypad instead of the caller's voice currently available, however it could be made more obvious to callers earlier in the process and enhanced to allow callers to type in locations and options from their phone.

Participants described 511.org as "great because it integrates all the different entities in the Bay Area" but participants expressed that the origin and destination database could be improved because "it never likes the starting or destination addresses." Most participants described website as "excellent, fast and informative." Participants' main complaint about 511.org was that it gives completely different itineraries based the user's desired departure or arrival time. They suggested that 511.org should clearly state that the itinerary suggestions are dependent on the inputted departure and/or arrival time and add a function where users could receive the three alternative itineraries during a specified time range.

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[3] 511 does not have live operators, however during working hours, 511 will transfer callers to their transit agency of choice to speak to a live operator.

II. Section 2 – Signage

Experience With Current Signage

Participants used such a variety of different stations, that when asked to rate the helpfulness of the signage at the station they use most frequently, there was no consistency in the answers (detailed ratings for each station, and types of signage at each station can be found in Appendix C). Stations used by multiple participants received conflicting ratings from different people.

Most participants considered it important that signs look similar between different transit agencies. Supporters of this idea believed it would be "easier to find and process information that is consistent at different stations and it will save riders time." Participants who disagreed with this proposition were concerned that they would not be able to distinguish signs that belonged to different agencies or inbound versus outbound signs. Participants' comments suggest that one solution would be to design signs to look consistent between stations in terms of font, layout, size, etc., but make the agency logo visible and the accent coloring match the logo.

Palo Alto Prototype Information Display Boards

The facilitator showed the group two boards that work as a pair and could be part of a regional transit information case. The first board showed a regional transit diagram of all the major transit routes in the Bay Area, with each agency represented by a different color; a local area map that shows the multiple lines of multiple agencies in the Palo Alto area; and a small detailed map of Downtown San Jose and its major transit route. In the bottom boarder of the sign is the 511 slogan, "On the phone. 511 On the web. 511.org On your way." Participants considered the 511 slogan helpful, however it "needs some text to explain what 511 is" and "that 511 is free."

Participants offered positive reviews of the board. They especially liked that it "gives a global view along with a micro view." The color-coding of the different agencies was well received, however some thought it there were too many colors and the legend was too small. Some participants commented that the board gives too much information and appears "busy." Participants suggested adding more landmarks, including freeways, and a distance scale. The sign should also incorporate transfer information.

The second board had the same dimensions and the same green 511 border as the first board but with the rest of the board's figures and text in black and white. The left panel showed a map of the Palo Alto Caltrain station with the bus boarding locations. The right side displayed VTA and SamTrans information of buses that serve the Palo Alto station in a chart format that included route, hours of operation, intervals of bus arrival, and bus destinations. Participants responded positively to having the two different agency schedules in the same place. Participants thought the station map was helpful, but wanted to see a "you are here" dot on it as a reference point, and markers that explicitly indicate where each bus or train stops.

Regarding the schedules, one participant said, "graphically it is very weak because there are no colors to differentiate the information." Most participants would rather see actual arrival times instead of intervals because it is too time consuming to figure out when the next bus will arrive. If the intervals did remain on the board, it would be helpful to compliment the information case with a digital RealTime display above that says for example, "SamTrans 397 Northbound in 5 minutes."

Participants commented the dashed lines breaking up the rows made the schedules busier and more difficult to read; "continuous, horizontal lines on the schedule would be more helpful" in addition to shading alternate lines to improve readability. Finally, participants wanted more color on the second panel, especially something that could differentiate the VTA from the SamTrans schedules, such as the agency logos.

III. Section 3 – RealTime Information

The facilitator asked participants what type of RealTime information they encounter during their trips, including: electronic displays at train stations or bus stops, web site accessed at home/work via pda, call 511 on phone, call transit agencies by phone, updates provided by TV or radio during commute hours or other (intercom announcements). Thirty-six of the 42 total participants encountered electronic displays making it the most common type of RealTime encountered. Fifteen participants listened to updates on TV or radio, twelve people checked a website, six participants called 511 and an additional six called a transit agency directly.

The vast majority of participants expressed that RealTime information was "very helpful" or "helpful" (5 or 4 on a scale of 1-5), with only six respondents rating RealTime a 3 or lower. Participants valued RealTime for reasons that ranged from "knowing whether to run or walk" to "allowing riders to plan an alternate route if their train is running late."

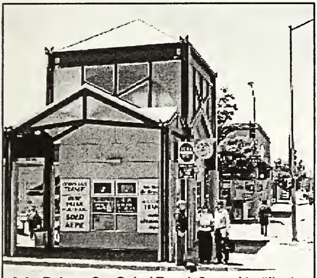
Participants rated their preference for receiving RealTime information all three focus groups gave similar responses. The majority of participants preferred electronic displays. They also responded positively to station announcements, however "they are only helpful if you can understand the station agent." The third most preferred method of obtaining RealTime information was through a website. Participants were mixed on their preference for calling an agency or 511. Updates provided by TV and radio during commute hours were helpful, but received the lowest number of responses.

As in the other focus groups from Part A and B, these participants also wanted to see electronic RealTime displays above ground and in the station, and before entering the paid area in addition to keeping the displays on the platform. If RealTime displays at hubs listed multiple agencies together, participants had mixed preferences on whether they wanted the list sorted by agency or by next vehicle arriving like the displays at the airport. Some participants said their preference for sorting would depend on if they display were above ground, outside the station or underground. All participants were in agreement that installing a multi-agency RealTime screen would be a positive station improvement, regardless of how the information is sorted.

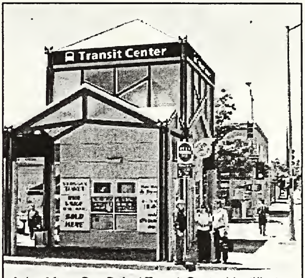
IV. Section 4 – Transit Signage – Existing

In this section the facilitator showed participants pairs of photos in PowerPoint of the five prototypical transit stations. The first photos were of existing signage at the stations; the second photos showed suggested improvements to the signage based on comments received during Parts A and B of the study. Participants were asked to give the impression of the before and after photos and then check "not acceptable," "acceptable" or "preferred."

A1 San Rafael Transit Center Identification



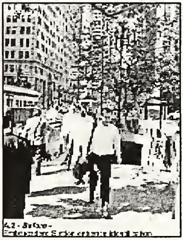
A.1 - *Before* - San Rafael Transit Center identification



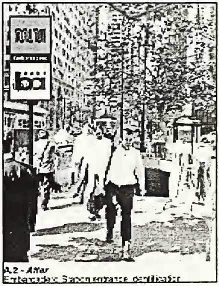
A.1 - *After* - San Rafael Transit Center identification

In response to the first photo participants commented, "what is it?' "Is it a mini mart? A taco stand?" They describe the building as "dated and dingy" looking. Participants described the modifications presented in the after photo as "better, but still could use more information" such as what operators use the station. The majority of participants from all three groups said the change was "acceptable" but it did not fully address their questions about the facility.

A2 Embarcadero Station Entrance Identification



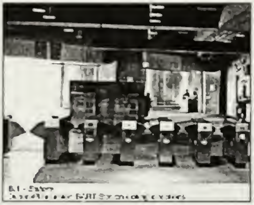
A.2 - Before - Embarcadero Station entrance identification



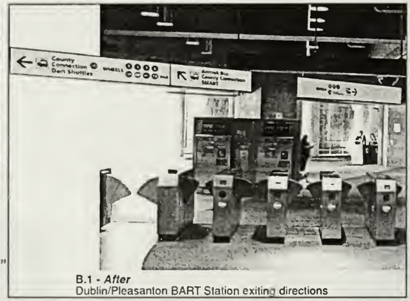
A.2 - After Embarcadero Station entrance identification

Most participants were familiar with the Downtown San Francisco BART/ MUNI entrances, but they expressed that for a new user this entrance would feel "dark," "hard to identify" and "inconspicuous." Participants considered the sign as an improvement, however they would prefer the see "Embarcadero," the station name, larger and on top and then the BART and MUNI logos side by side underneath the station name. The majority of participants rated this improvement acceptable or preferred, with a few more choosing preferred.

B1 Dublin/Pleasanton BART Station Exiting Directions



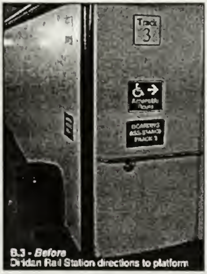
B.1 - Before
Dublin/Pleasanton BART Station exiting directions



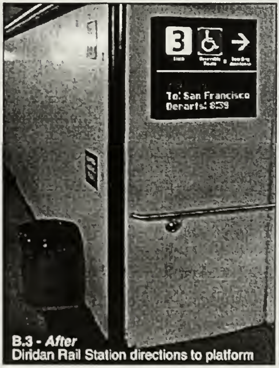
B.1 - *After*
Dublin/Pleasanton BART Station exiting directions

Participants' reactions to the before photo included statements such as, "What's next?" "Which street is where?" "Which way to the busses and taxis?" and "Where do I get picked up?" The new signage was very well received with all 42 participants finding it "acceptable" or "preferred." The new signs were described as a "world of a difference!" because they were "clear," "comprehensive" and "just like the airport." Participants liked the location, content, coloring and icons of the signs.

B3 Diridon Rail Station Directions to Platform



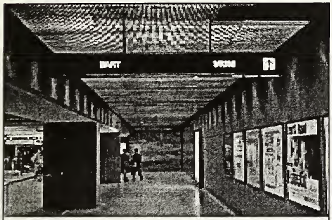
B.3 - *Before*
Diridan Rail Station directions to platform



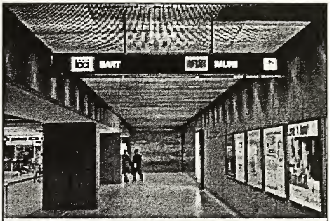
B.3 - *After*
Diridan Rail Station directions to platform

In this before photo of the underground walkway to the Amtrak and Caltrain platforms, the current signs were described as "too small, drab" and "don't give enough information about which way to Track 3 and what is there." Again, all 42 respondents rated this improvement as "acceptable" or "preferred." They commented that the new display "ties all the information together," and adds new features such as the operator, destination, RealTime and a directional arrow. Some improvements suggested by participants were to add the type of train (e.g., baby bullet, limited stop or regular) to ensure that riders would board the correct train for their destination. Participants also preferred a RealTime feature that showed minutes until departure with a clock close by or incorporated into the display and adding a scrolling feature or more rows to show the next few trains to arrive.

B6 Embarcadero Station Transit Service Directional Signage

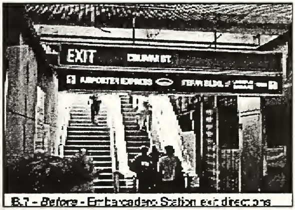


B.6 - *Before*
Embarcadero Station Transit Service directional signage



B.6 - *After*
Embarcadero Station Transit Service directional signage

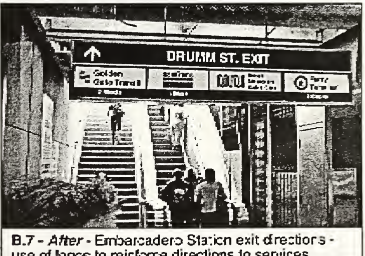
Participants considered change as an improvement; "it is important to have both logos for commuters and lettering for tourists." Fourteen participants rated this change "not acceptable," fourteen rated it "acceptable" and only eight rated it "preferred." No participants from the South Bay Group rated the new sign as "preferred." The arrow was considered "not very helpful because it is pointing towards a steel wall" and "it is unclear if the arrow also referring to BART's location. Participants suggested an airport-style RealTime feature and clock in place of the advertisements on side wall.



B.7 - *Before* - Embarcadero Station exit directions

B7 Embarcadero Station Exit Directions

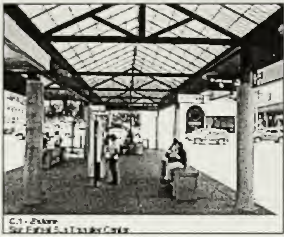
Participants described the current sign as providing good information, but that it looks "old" and "dull." Twenty-three participants rated the improvement as "preferred," eleven marked "acceptable" and only three marked "not acceptable." Participants responded positively to the logos and the distance indicators but would like to know "which direction the '2 Blocks' refers to?" Participants suggested that before reaching the stairs, possibly after exiting BART or MUNI, a station diagram would help riders decipher which exit leads to what connecting transit. Upon reaching street level, participants would like to see a matching sign, possibly with more information about landmarks and destination points. Some participants expressed some negative reactions to the bright yellow color, but admitted it "attracts the users attention" and is in line with signage coloring at airports. Participants suggested it would be helpful to add let riders know what direction they will be facing when they exit out onto Drumm



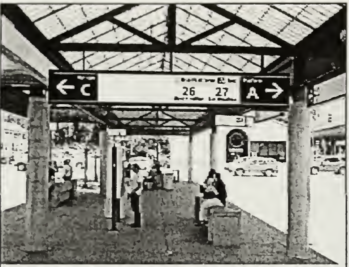
B.7 - *After* - Embarcadero Station exit directions - use of logos to reinforce directions to services

Street by adding 'South' in between the arrow and street name.

C1 San Rafael Bus Transfer Center



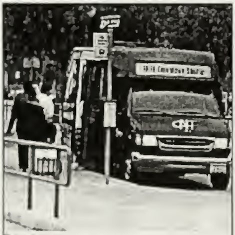
C.1 - Before
San Rafael Bus Transfer Center



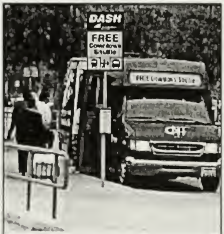
C.1 - After - San Rafael Bus Transfer Center - bus boarding identification Northbound and Southbound Routes 26 & 27 board on different platforms

The suggested improvement confused some participants; about half could not correctly infer that the photo shows Platform B (not A or C). Participants wanted to see 'Platform B' painted on the platform's ground, along with the bus route numbers and destinations at each designated stopping area. Participants responded positively to the look of the sign but wanted it to be relevant to the platform they are standing on. They suggested mounting directional and route signage for other platforms on the concrete columns. Participants expressed that having a RealTime display at each platform would greatly improve the usability of this station. The responses from the focus groups beg a larger question about the platform labels; should each side of each platform have a unique identifier? For example, the left side of Platform B could be "B1" and the right side could be "B2." This labeling could alleviate some of the station's signage and navigational challenges.

C2 Diridon Station Identification of DASH Free Shuttle Service Stop



C.2 - Before
Diridan Station identification of Dash free shuttle



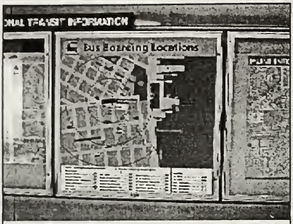
C.2 - After
Diridan Station Identification of Dash free shuttle

Some of the regular San Jose Diridon users were unawares that the free DASH shuttle existed. One participant said "the sign should be much taller to enable viewing from the front of Diridon station so it is visible even when other buses are in front of it." Participants did not understand what the icons at the bottom of the sign were supposed to convey. They also wanted to know frequency, schedule information and stops, although there appears to be a small schedule display under the sign. Complementary signs should be placed near the station exit so riders know what DASH is before they walk to the stop, away from alternate routes.

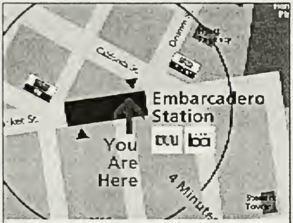
D1 Embarcadero Station Bus Boarding Locations

TRANSIT INFORMATION
Bus Boarding Locations

D.1 - Before
Embarcadero Station


TRANSIT INFORMATION
Bus Boarding Locations

D.1 - After
Embarcadero Station Bus Boarding Locations


Embarcadero Station
You Are Here
4 Minutes
Tower

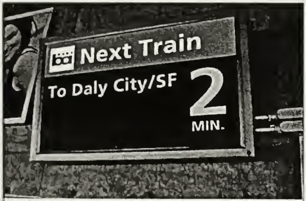
D.1.2 - After
[illegible]

Participants described the current sign as uninviting. Most participants "preferred" the improved sign; especially the circles that show the estimated walking times, the bus agency logos and landmark labels. Some participants requested a different color be used for the circles; they thought that red conveyed a sense of emergency. Some participants also wanted more bus route information through a near by schedule display case or a rack with schedule booklets that riders could take with them.

E1 Dublin/Pleasanton BART Station RealTime Train Information at Entry Lobby

East Dublin/Pleasanton
South Hayward
Union City
Fremont

E.1 - *Before*
Dublin/Pleasanton BART Station Real Time train information at entry lobby


Next Train
To Daly City/SF
2
MIN.

E.1 - *After*
Dublin/Pleasanton BART Station Real Time train information at entry lobby

Regular Dublin/Pleasanton Station users described; the current sign as "mounted too high up and is too small to read." The screen's background was considered too light, making it difficult to read. They also suggested that the screen competed for attention with the newsstand underneath and should be moved to the entry lobby. Because all trains go to San Francisco and Dublin is the terminus for the line, signage needs to inform riders that "all trains go to San Francisco" with corresponding transfer information. All except for two East Bay participants preferred the new sign, because it was "streamlined" and "easy if you are in a hurry," however most participants from the San Francisco and South Bay groups would prefer the original sign if the map were smaller and the text were larger. Many participants suggested, "the screens should be a combination of the two" [before and after] and alternate between a list of the arriving trains and times and then switch to an improved version of the system map that shows transfer points.

MTC REGIONAL TRANSIT CONNECTIVITY STUDY
Customer Research Summary Report

Appendices

PART A – Investigating the Regular Transit User Experience

Focus Group Survey Summaries

- Dublin Pleasanton Station
- San Francisco Embarcadero Station
- El Cerrito del Norte Station
- San Rafael Transit Center
- San Jose Diridon Station
-

PART B – Investigating the Non-Transit User Experience

Travel Diaries

- Travel Diary Routes
- Travel Diary Booklet
- Travel Diary Transcriptions
-

PART C – Improving Customer Use of Transit Information

Focus Group Survey Summaries

- San Francisco
- East Bay (Oakland)
- South Bay (San Carlos)

Appendices Part A – Dublin Pleasanton

MTC Transit Connectivity Focus Group Results

Section 1 Introduction

1) Where do you live and how do you get to the Dublin/Pleasanton transit hub?

- Castro Valley- bus, BART
- I live in Alameda. I take bus to Fruitvale Station. Then, I take BART to Dublin/Pleasanton.
- I live in San Francisco. I ride BART 3 times a week.
- Hayward, California- I use AC transit (97 bus) and BART.
- Pleasanton, Drive, Val Vista (neighborhood)
- I live in Oakland. I take AC Transit bus to the Fruitvale BART station. I ride the train to Dublin BART station.
- San Francisco- by MUNI then BART- Montgomery.
- El Cerrito/Richmond, CA. (Bus or walk).

2) How often do you use this transit hub?

Frequency	Count
Everyday	3
Four-five times a week	4
Two-three times a week	1
Other	0

3) What is the typical purpose of your trip when you travel through this hub?

Purpose of your trip when you travel through this hub	Count
Travel to/from work	8
Travel to/from school	0
Business travel	0
Visit family or friends	0
Shopping/errands	0
Leisure Recreation	0
Other	0

4) What is your general impression of this transit hub? *(What two or three words would you use to describe it?)*

- Clean, organized, spacious
- Cleaner than other station- much bigger than others
- Very fast to many people in the morning and take about 1 hour on a good day
- Cleaner than others
- 1. Crowded 2. Clean 3. Convenient
- Nice, convenient
- It is clean, near major offices, great location

- Clean, nicely lit, nice. It is nice that there is always a BART police on duty all the time!

5) On a scale of 1-5, please rate your overall experience passing through this transit hub. *(Please circle a number between 1-5; 1= totally unsatisfactory, 5= totally satisfactory)*

Rating	Count
1	0
2	0
3	0
4	3
5	5

Section 2 Trip Planning

1) What information sources did you use to plan your travel through this hub? Please consider your most typical travel and be specific with your information sources.

- Got pamphlets in kiosk
- Website normally- posted schedules- Phone calls to AC transit and County connection and on website
- The internet BART schedule and BART information hotline.
- The internet
- Internet (BART and MUNI sites)
- Internet- AC transit plan your trip- enter what transportation bus and BART
- 511.org- asked another person who travels; BART transit info pamphlets; BART.org
- Posted schedules and real-time sign, kiosk signs, schedules-handouts/ online info

2) How long ago did you first do this trip planning, or is it on-going, depending on your destination? How long have you been traveling this route?

- 2 months, on-going
- Few days ahead- about a month
- For about 3 years and I have it pack down on my days
- Its on-going- last 3 years
- 2 months ago- 2 months on route
- 5 years ago I made my first trip. I used the BART written schedules and AC written schedule
- About several years since the website was up- about a month because of work
- Started 3 and a half years ago and it is on-going
-

3) On a scale of 1-5, please rate how easy or difficult it was (or is) to get the information you need to plan your trip or figure out your route. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	1
2	1
3	0
4	3
5	3

4) Please tell us why you gave the rating you did.

- The pamphlets are hard to read at first, once you get in the groove it is easy
- The way I was planning my trip from home to stations. I found all materials easy- mostly on the web.
- Because it has been easy for me. I have been doing this route for 3 years.
- Sometimes the trip planner does not recognize street names.

- I want one cohesive site to plan whole trip, using different public transportation (I heard there is a site, but unknown to me).
- Because it takes me a little while to put the schedules together.
- There is always room for improvement.
- It's very simple to get the info for BART and buses. Most of the info can be found at each BART station.

5) Do you have any suggestions for making it easier to plan your trip?

- No (2)
- Bus to be on time. They are way off the schedule pms.
- No it is fine for me?
- Yes- map it through mapquest or have a kiosk with virtual planner.
- I wish I could use street corners (for example corner of 7th and Bryant) instead of exact address.
- Include yards or walking where there is no transit.
- I'm sorry, but I don't have anything to add.

Section 3 Hub Information Services

1) Please rate how easy is it to find or locate the information services you need in this hub. By information services, we mean schedules, signage, information kiosks, RealTime schedule information, the Regional Transit Information Case, and maps. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	0
2	1
3	1
4	1
5	5

2) Please tell us why you provided the rating you did.

- Easy to see in front of stalls
- So for what information I needed for my trip I received them easily
- I have been traveling it for some time and I got the hang of it after a week
- When you are on the platform there is only one schedule all the way at the end
- To be honest, I never use the info services in the hub. I was only directed to today on tour. I never leave home without knowing where I'm going.
- Because it is very easy to locate the information.
- I have to figure things out- the hub does not indicate directions
- Signs listed above are clean and all around each station- up on platform and below station as you are leaving the stations.

3) For each transit information feature, please check the box that best describes your experience with the feature.

TRANSIT INFORMATION FEATURE	Not Helpful - needs substantial improvement	Somewhat Helpful -could be improved	Very Helpful - no changes needed	Did Not See or Notice
Schedule Information		1	6	1
Platform Signs			8	
Information Kiosk		1	5	2
RealTime Arrival/Departure Information		2	5	1
Regional Transit Information Case	1	1	3	3
Transit System Maps			7	1
Local Neighborhood/Area Maps		2	2	4
Other:				

4) How do you prefer to get travel information while on route?

- Platform signs
- Ask bus driver
- Internet or my schedule and map pocket size
- Real time arrival/ departure information
- I already have full schedules for my full route (BART/ MUNI)
- An announcement when on the train or platform
- Use bus schedules, 511.org, ask people, BART agent, bus drivers
- I like the system in place. I wouldn't change anything.

5) What information features did you find most helpful? Please tell us why.

- Regional transit case
- Kiosk
- My MUNI schedule and BART kiosk overhead
- Real time arrival/ departure information- tells important info
- N/A I don't use
- The sign on the platform saying the train is arriving
- Schedules and transfers booklet or transit connection
- Real-time signs/ operator's info as the trains go from station to station. Operators will tell you your locations and when you need to change trains.

6) What features did you find least helpful? Please tell us why.

- Local area map
- N/A (2)
- Schedule and BART kiosk
- Local neighborhood maps- very tiny does not show clearly what bus lines
- N/A I don't use
- Local neighborhood area maps because I usually know where and how to get to the area that I'm going.
- It is nice that some stations are above ground, but they are very noisy due to the freeway.

7) Do you have any suggestions on how to improve the features you mentioned in question 6?

- No (3)
- No it works fine for me
- Show linkages to BART station
- N/A I don't use (2)
- Walls to reduce noise on above ground platforms

8) These next two questions relate to the hub's amenities. Examples of amenities include: restrooms, telephones, bicycle parking, bus shelters and benches, taxi stations, or elevators.

a) What amenities at this hub do you use? (list all that apply)

- Benches
- Bus shelters (2)
- Restrooms, taxi, elevators, bus shelters
- Restrooms, bus shelters, benches, elevators
- Restrooms
- Bus Shelters, benches, elevators/escalators
- Restrooms, telephones, benches, taxi, elevators

b) Do you have any suggestions for what amenities could be added or improved?

- More benches
- No (3)
- More benches and restrooms
- More parking
- Signs where the stairs are- so it is easier to find them after exiting
- Each station needs to have more than one bathroom per-gender. Also, the bathrooms really need to be cleaned better and more often.

Section 4 Barriers/Problems

1) Do you experience any barriers or problems when you pass through this hub? If yes, please describe them.

- No
- No problems- maybe only rush hour
- I hate the fare gate- sometimes they never open and the agents never like to help you.
- Demagnetized tickets and damaged tickets
- Clogging of fare gates (always a wait)- slow people (I know there is no solution)
- One problem is if you need to add fare to your ticket and you need money back the money is in quarters only. Going from Dublin to Oakland there are only 2 gates opened to go that way. Several more opened going the other way coming to Dublin from San Francisco.
- Yes, the bus schedules are far between each trip- half and hour- at peak times. Confusing platform stop. One main exit and have to walk back the same direction I just came from.
- The station needs to use all the fare gates. Some of the gates are off/closed.

2) Do you have any suggestions or solutions for the problems you identified in the question above?

- No (2)
- N/A
- More nicer station agents and helpful
- Ability to get a new ticket with same value
- More fare gates
- 15 minutes between trips
- Have all the gates operating all the time. Sometimes you get people lined up trying to get in and out of the station. This problem can slow you down and make you miss your buses!
-

3) Would it be helpful to you or those you travel with if information were also available in another language? If yes, please tell us what language (besides English) would be helpful.

- No
- Spanish, Chinese, Vietnamese
- Asian, Spanish
- Sure! Spanish and other common languages
- Spanish, Chinese
- Not for myself, but others
- No- they are in America- learn English and understand it. It's a pretty basic language.
- Yes, more languages; Mex, Chine, Mandarin, etc!

Section 5 Service Connections

1) What transit connections do you make while passing through this hub? Please tell us the types of transit and operators you use for your usual trip.

- AC transit, BART, wheels bus, taxi
- County connection, AC transit, BART, or my car
- The bus wheels or taxis (MUNI)
- AC transit and company shuttle
- Exit civic center, walk to Van Ness, board 47 (Caltrain station), exit 7th and Bryant. From: #27 3 to Powell station, Powell station to Pleasanton
- AC transit to BART to wheels- sometimes on my return home I walked to BART from the office rather than take the bus
- Wheels bus 1A, 1B, 12 (when late), 10, MUNI 15 start, or MUNI 15 and 44, or MUNI 15 and 9 express
- Wheels bus line (#20 wheel), Livermore lab and bus, AC transit #43, BART trains (Freemont and Pleasanton BARTs)

2) On a scale of one to five, please rate your transit connection experience traveling through this hub. Please use an average travel day for your response. *(Please* circle a number from 1-5; 1= totally unsatisfactory, 5= totally satisfactory.)

Rating	Count
1	2
2	1
3	0
4	3
5	2

3) How long do you have to wait between transit connections?

- 10 to 15 minutes
- Mornings 5-10 minutes; Afternoons 1 hour plus
- 4-6 minutes
- 10 minutes
- 15-25 minutes (not including walk in A.M.)
- Usually no wait time. If BART is a little late you miss the bus and wait 15 minutes.
- 30 MINUTES!!!
- 30 minutes to 1 hour

4) Do you know what time your connecting service will arrive? If not, how would you want to obtain this information?

- Yes (4)
- Yes I have it timed
- I do know the time but it is never on time
- I have the schedule, but the MUNI is always late (in P.M. #27 at 7th and Bryant).

- Yes, I have my connection info. I feel their needs to be bus schedules posted inside the BART station itself.

5) What aspects of your transit connections work well?

- All
- Take me right at the job- takes me right at BART
- All of it
- BART and company shuttle mostly on time
- BART
- When the buses and BART train are on time the connection is great
- It takes me nearest to my office
- BART ONLY!

6) What aspects of your transit connections could be improved?

- ALL
- Should be on time; schedule
- None, works for me
- AC transit being more consistent
- MUNI scheduling
- Maybe if the wheels buses ran more often during off hours
- Time between trips and clearly mark bus stops on other stops to get back to BART
- Wheels service- sometimes the wheels buses are late or they just don't show up at all

7) Do you have any suggestions for improving the items you mentioned in the question above?

- No (3)
- Run on schedule!
- Yes, more buses
- Better running MUNI schedule. Sometimes I'll see 5 #47 buses pass before I'll catch a #27. Other times when the bus (#27) shows up, there are 1 or 3 in a row.
- More trips during peak times until 9am- and regular trips in-between can be lessened.
- I think that all wheels buses should be at the pick-up locations on time each day! Or, show up a few minutes early!

Closing Questions:

1) To what extent do you feel you are a customer of a particular transit agency or have a special relationship to a transit agency? Or, do you use whatever operator meets your needs? (Name any specific agencies)

- I am a BART rider
- BART rider, AC Transit, County Connections
- Whatever works
- I use whatever fits my needs
- BART/MUNI- no relationship- only relationship of necessity (no other transportation use)
- I feel I am a customer of AC transit, BART, and wheels. I have a transit relationship with all three.
- I am a MUNI or BART customer mainly- I cannot do without it on a daily basis. I can take a cab in lieu of wheels
- AC transit bus #43, BART trains (Freemont to Bayfair to Dublin/Pleasanton), then I take wheels bus (#20 Livermore).

2) Of the improvements discussed or identified in your questionnaire, which ones are most important to you? Please list the improvements and circle your highest priority improvement.

- More benches
- Bus on time- run on time as you say on schedule
- More open fare gates, nicer people to help you, lower BART fare, more trains
- Security needs to be improved, more bathrooms and cleanliness, better and consistent transit connections to BART, alternative route to Dublin/Pleasanton in case of strike or BART not working
- More Parking BART (Pleasanton)- I head if pending changes in 2006- maybe secondary parking and shuttle service to BART. Also, #27 bus line (at 7th and Bryant).
- None
- Schedule and Frequency of Trips. Improvements: Punctuality of trains; punctuality of buses and consistency; announcements of stops clearly with BART
- More police at each station and also police more often on BART trains. Some more officers in the parking areas- in the early AM hours and late PM hours. More police with drug dogs on trains and inside the stations. Cleaning the trains more often.

Appendices Part A – San Francisco Embarcadero

MTC Transit Connectivity Focus Group Results

Section 1 Introduction

1) Where do you live and how do you get to the San Francisco Embarcadero transit hub?

- A) American Canyon (Napa County)- 6 blocks from Vallejo (Solano County); B) Baylink Ferry from Mare Island in Vallejo
- I live in Vallejo. I commute to SF by Ferry (baylink) and I walk about a block to the Embarcadero station.
- Nob Hill, San Francisco- I usually take the 1 bus down Clay to Drumm and walk to the station- sometimes I walk down.
- In San Francisco - Castro/ Noe Valley- via MUNI or BART
- I live in Fairfield and take either the Ferry from Vallejo, or BART from North Concord to San Francisco. I then take MUNI to get to my destination in San Francisco.
- I live near Civic plaza and use every method of travel- MUNI, BART, Feet, etc- I have been here 20 years and know every intersection of BART and MUNI.
- I live in Temescal/ Oakland area. I take AC transit to MacArthur BART station. Sometimes I take AC transit to SF/ Embarcadero transit hub.
- Novato- Ferry
- Live: Castro Valley; How I get to SF/Embarcadero: BART
- 28th and Telegraph, Oakland- AC transit to BART to Embarcadero hub
- Oakland- near Lake Merritt- AC/ BART/ F Line/ Bus

2) How often do you use this transit hub?

Frequency	Count
Everyday	5
Four-five times a week	6
Two-three times a week	0
Other	0

3) What is the typical purpose of your trip when you travel through this hub?

Purpose of your trip when you travel through this hub	Count
Travel to/from work	10
Travel to/from school	4
Business travel	2
Visit family or friends	3
Shopping/errands	3
Leisure Recreation	2
Other	1

(Some people checked more than one response)

4) What is your general impression of this transit hub? *(What two or three words would you use to describe it?)*

- Confusing, busy, staff sometimes uncooperative, tiring
- Busy and crowded
- No real "impression"- I have one or two ideas on how to improve it (for myself anyway). I guess I'd say it's very useful since the bus, cable, MUNI are all right there.
- Busy, dirty, not as well laid out as it could be- awkward traffic patterns
- I feel like the MUNI/BART, etc. feels like pieces of a whole. It seems like various transit services just tacked on their services at Embarcadero. There is no centralized info booth for BART/MUNI/Samtrans/Amtrak, etc.
- Busy and efficient for BART- MUNI has problems wherever it is located
- Necessary, convenient, time consuming, busy
- Convenient, but not well coordinated
- BART: on-time; F-Line: late
- Clean, affluent, informative
- Busy, organized, clean
-

5) On a scale of 1-5, please rate your overall experience passing through this transit hub. *(Please circle a number between 1-5; 1= totally unsatisfactory, 5= totally satisfactory)*

Rating	Count
1	1 (MUNI)
2	2
3	2
4	4; 1 (BART)
5	2

(One respondent gave separate ratings for BART and MUNI)

1) What information sources did you use to plan your travel through this hub? Please consider your most typical travel and be specific with your information sources.

- Computer using website for BART, MUNI, MAPQUEST, travel.org? Across street from job site
- I typically ask friends who frequent a certain line or form of transportation. I also use the website(s) to look for maps and sometimes a "day trip-planner."
- Recently moved to SF so most information came from my roommate and a friend who works downtown. I use the internet for timing.
- BART schedule BART map and MUNI map-schematics, also trial and error
- BART fares and schedules. Baylink Ferry fares and schedules. Bart and Ferry web pages.
- I use the white phone or a living personnel in their glass station- I also use the electronic message boards
- I typically use the internet, Bart.gov or transit planner (tripplanner.com) or any schedules that I have collected
- GG Transit Bus/Ferry schedule; MUNI bus stop map; STI
- MUNI map, BART map, MUNI and BART timetables
- I called 511
- Online trip planner

2) How long ago did you first do this trip planning, or is it on-going, depending on your destination? How long have you been traveling this route?

- A) I am familiar with this location. B) Traveling this route since BART began (native San Franciscan).
- I first started this route 4 years ago and I've tried/considered other methods, but the Ferry/MUNI combo works best for me.
- 4 months- planning changes only if I go to see a friend of shopping: either I'll take MUNI from Embarcadero or I'll travel to Powell station.
- BART schedule is on-going since it changes periodically. I've been traveling this route 5 years.
- Ongoing for about a year. I take this route to go to school.
- I'm from N.Y.- It's inbred- It's in the genes. I figure how long it will take once I get to the station- long distance ½ hour to ¾ hour- short- 15 min- 30 min.
- I have been traveling this route for about 7-8 years, It is an ongoing thing for me (trip planning).
- Ongoing depending on destination and changes in scheduled transports/ fare changes. Traveled for 4 ½ years
- Planned it: March 05; Traveling it since: March 05
- 2 weeks ago/ 2 weeks
- 13 months ago when I got a new job in SF I looked it up online. Whenever I'm coming from or going to a new location I look up the route and schedule on line.

3) On a scale of 1-5, please rate how easy or difficult it was (or is) to get the information you need to plan your trip or figure out your route. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	0
2	4
3	2
4	3
5	2

4) Please tell us why you gave the rating you did.

- BART schedule could be easier to read- otherwise ok
- The information is there, but you really have to look for them to find what you're looking for
- Spending too much time on computer doing research. Each site diverts you to another site. Eventually I will call the transit agency.
- Sometimes the instructions are confusing or inaccurate due to construction.
- I can never get/find the place to buy my bus pass or high volume BART cards. Station agents are not always helpful.
- I have had both pleasant and horrible experiences.
- Rating is because people lacked info so I had to search out resources.
- Info outlets are plentiful and correct 85-90% of the time.
- BART was very good about getting me what I needed from an information standpoint. MUNI was horrible. They do not adhere to their timetables, and MUNI maps are much harder to read.
- 511 supplies information for all of the transit agency I use
- I can just put the info into the computer and be given a detail trip plan.

5) Do you have any suggestions for making it easier to plan your trip?

- Website that offers connections and travel time estimate- sort of like Mapquest. Would be nice if site included BART and MUNI (I didn't know about 511.org until tonight).
- A visitors/information center could help streamline the trip making process and offer travelers all of their transit possibilities.
- Easier website
- More up-to-date info
- Collect all the schedules and sit down to figure it out. Talking to people I've learned the hub to cable car is a less crowded and fast way home for me. More up to date info in the hub (upper level).
- Have patience- realize the system has problems so that when they happen you are not surprised and angry- although the length of dealing can destroy that calm!
- More signage and cross-informational exchange- bus stops having train information and trains having bus info.
- Coordinate different transport systems a little better (ex: MUNI and GGT or GGT and BART).
- Make MUNI adhere to their timetables

- No
- Directions for catching buses say “NE corner” or “SW corner” and I never know where that is. Give another designation or mark bus stops that way.

1) Please rate how easy is it to find or locate the information services you need in this hub. By information services, we mean schedules, signage, information kiosks, RealTime schedule information, the Regional Transit Information Case, and maps. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	1
2	3
3	6
4	1
5	0

2) Please tell us why you provided the rating you did.

- Hard to locate the info in the hub. There is separate info for MUNI and BART.
- On some stations the information services signs are washed out in a sea of block color (Embarcadero), which makes it easier for information to cross your path.
- Items do not appear distinct- blends in.
- The signs are usually old and easy to overlook, especially if you are in a hurry.
- Everything blends in- it seems like a big mess of information that is difficult to scope through. All signs should be bigger and bold.
- The dismal color setting- black is easily missed by quickly moving person- most are too small- they should be exaggerated- a great deal.
- The reason I gave this rating is because I believe a person has to work hard at figuring out what to do.
- Schedules on bus stops depends on the bus stop- sometimes schedule present, sometimes nothing.
- It would be good to have real time information outside the paid areas- at every entrance, i.e., BART and MUNI. Schedules for stuff above and below ground.
- I find the signage extremely helpful and often view the schedule info- easy to find.
- Sometimes it is hard to notice signs- need to be larger and more colorful.

3) For each transit information feature, please check the box that best describes your experience with the feature.

TRANSIT INFORMATION FEATURE	Not Helpful - **needs substantial improvement**	**Somewhat Helpful -could be improved**	Very Helpful- **no changes needed**	**Did Not See or Notice**
Schedule Information	3	5	2	
Platform Signs		4	6	
Information Kiosk	3	3		4
RealTime Arrival/Departure Information	1	5	3	1
Regional Transit Information Case	2	2	1	5
Transit System Maps		6	3	1
Local Neighborhood/Area Maps	2	4	1	3
Other:		1 (attendants)		

4) How do you prefer to get travel information while on route?

- Real time signage and announcements
- Radio, 511 on cell phone
- From the vehicle- maps on board trains- maps easily accessible on corridors
- I usually refer to a schedule. Most times I have my trip planned out. Other times I call a friend (SF transit guru) and ask for help.
- My schedule or the sign schedule on the BART platform- or platform signs.
- By signs- moving or solitary- operators only when necessary!!!
- Internet, signage, ask people
- Every medium is fine- signs, info kiosks, etc...just make it uniform- make is look like it came from the same source
- Real time displays
- 511- I have the # programmed in my cell phone
- real time signs are the best- good to have it announced and then the real time notice
-

5) What information features did you find most helpful? Please tell us why.

- Platform signs- BART train arrival signs
- Real time train departures and arrivals. They help me so that I'm not rushed to the station to catch a missed train
- Live voice, signage if it can be distinguished from others
- I liked the real time MUNI marquee...if it was more accurate

- Platform real time signs. My BART paper schedule (when it has the correct schedule printed). I would love to see the same real time signs on the upper level of the station before using my card to get down onto the platform.
- The electric signs above the railway station walk ways- the information has to do with the immediate situation and keeps current
- Internet and signage and attendants
- Maps are well put together
- Real time information systems
- Schedule information; Real time arrival/ departure; platform signs (these help me to stay on schedule)
- Real time signs and announcements- easy to see- announcements get my attention. I like it when a male voice announces one line schedule and a female the other.

6) What features did you find least helpful? Please tell us why.

- Regional neighborhood info- hard to find display
- Information kiosks- no offense, they are like the kiosks in a shopping mall
- Walk and pathways to transit cars
- The MUNI announcements are rather inaccurate at times
- Exit signs- embarcadero is a long hub and I can never figure out which exit I need to take
- Small painted signs in hard to see places
- Signage- inconsistent; kiosks- not obvious
- Schedules for MUNI, trains, buses…they are wrong
- MUNI timetables
- A) Regional Transit Information Case; B) Transit Maps; C) Local Transit Maps (Easier to phone 511- maps generally all confusing to me)
- Regional transit information case- its location is not is my path so I didn't know it was there.

7) Do you have any suggestions on how to improve the features you mentioned in question 6?

- Change color- or put it is a more prominent place
- No, I really don't know
- Line persons to help with ticketing, directions, etc. not in information booths only, but throughout the station
- MUNI needs to better schedule the frequency of their trains. What good is 3 "M" trains if I have to wait 20 minutes for the "N".
- More signs pointing to the exists- bigger, bolder signs
- Enlarge and use color in an informative way- red means- blue means- etc.
- Use more colors, make things more obvious and simple- better publishing
- Have the transit system actually follow the schedule their public (specific to MUNI)
- Real time information or kiosks and station entrances
- No
- Signage pointing out its existence- put larger maps in it

8) These next two questions relate to the hub's amenities. Examples of amenities include: restrooms, telephones, bicycle parking, bus shelters and benches, taxi stations, or elevators.

a) What amenities at this hub do you use? (list all that apply)

- Benches
- N/A
- Restrooms (if I can find them), benches
- None (2)
- You can't use restrooms anymore- ticket buying counters are great- better then machines, but machines are ok
- Bus shelters, benches, taxi stations
- Restrooms
- Bus shelters
- Restroom- would use if they were open, sometimes phones, benches, elevators
- Telephones, bus shelters, benches

b) Do you have any suggestions for what amenities could be added or improved?

- Clean open restrooms
- 1 ticket for both MUNI and BART (or pass)
- Lockable lockers
- Locations
- N/A- perhaps the escalators could be in working order more often
- N/A
- Telephones, more kiosks, signage
- Make cleaner
- All real time info for F Line
- Need to open bathroom, more seating, cleaner elevators- used as toilets
- More benches

1) Do you experience any barriers or problems when you pass through this hub? If yes, please describe them.

- No (2)
- Crowd congestion
- Naturally, the only real barriers are the homeless beggars
- One form of payment for ALL systems- one card universal to all transit systems in ALL the bay. Also, out of order escalators
- People asking for change- people not knowing the etiquette
- No, I'm accustomed to living in a large moving society within the city- it is all a part of "line in the big city!" There are multiple situations occurring all the time! Don't pretend there isn't!!!
- Very narrow staircase/ escalator from the street into the hub
- Going through MUNI turnstiles are very crowded and cumbersome, especially when I have a lot of baggage and the MUNI attendant wants to check my pass when they were busy with another patron clogging the line
- Panhandlers
- Running into other passengers getting to the escalator as I come off the stairs- running into passengers as I cross from BART to MUNI.

2) Do you have any suggestions or solutions for the problems you identified in the question above?

- Signs on escalator- walk on left/ stand on right
- More escalators or wider escalators
- No (2)
- Translink- push it out to every hub/outlet
- Keep it clean- neat and courteous
- Widen the staircase/escalator into the hub
- A separate entrance for pass holders or even a way to communicate with the MUNI attendant more clearly
- I don't mind panhandlers, but not in entry ways- injuries could occur. Also, more or wider escalators
- Not that I can think of
- A direct path from BART to MUNI- 1 ticket, no multiple turnstiles

3) Would it be helpful to you or those you travel with if information were also available in another language? If yes, please tell us what language (besides English) would be helpful.

- N/A (3)
- No
- Spanish (spoken) or universal symbols
- Yes, English, Spanish, Cantonese, French, German, or use universal symbols like WC for toilet or pictorial signs
- Yes, Spanish, Chinese, Russian
- To have phones for multiple languages would be great-
- You could point tourists towards the information if you can't assist them because of language barriers
- Yes, Spanish, Mandarin, Chinese
- I don't need it but other would probably appreciate it.

- Section 5 Service Connections

1) What transit connections do you make while passing through this hub? Please tell us the types of transit and operators you use for your usual trip.

- AC transit 62 or 43 to BART (2 days a week from Lake Merritt) (3 days a week AC 15 to BART 19th Street)- F line to pier 39. Evening MUNI 10 or F-line to Embarcadero BART to Lake Merritt BART to AC 62 or 11
- I take 40 or 43 to the 19th street BART in Oakland- travel to the Embarcadero- take 1 California MUNI to destination- return to Embarcadero on 1 Calif, take BART to Coliseum to 98 AC transit to work, take 98 to Coliseum BART to Embarcadero to my house.
- Inbound: BART Castro Valley to Embarcadero, transfer to F line MUNI and ride to Earl- reverse route for return
- GGT ferry to MUNI 7 or 21 or F line or 71
- I get on 57 bus to MacArthur BART to Embarcadero. If I need to get off Civic Center, I get the 71, 9, MUNI bus to get me to Haight St.
- I take 41 or 49 to Market Street- then I take the underground MUNI to Embarcadero where I take the Richmond BART to Richmond- and then I come back after working in Berkeley
- I take the California #1 down Clay up Sacramento to the Embarcadero station to Lafayette BART station. Occasionally I take the California cable car up to Nob Hill.
- I take the N Judah going to Cal Train depot from/to Embarcadero station. Sometimes, on my return trip to Embarcadero, I get off at Folsom station.
- Ferry from Vallejo to Embarcadero. Take either BART to Daly City or MUNI (M line) to SF State University. State has a shuttle to MUNI during the school year. Same route is taken on the return.
- Baylink ferry/BART or MUNI
- I take the K-L-M to Embarcadero- take Richmond or Pittsburgh/Bay Pt. To Easy Bay/Berkeley and return- due to MUNI delays and rising costs- I often skip MUNI and walk to BART (24th street) east bound and sometimes west bound too. Home is BART to K-L-M to #35 or #24 bus at Castro.

2) On a scale of one to five, please rate your transit connection experience traveling through this hub. Please use an average travel day for your response. *(Please* circle a number from 1-5; 1= totally unsatisfactory, 5= totally satisfactory.)

Rating	Count
1	0
2	2
3	6
4	3
5	0

3) How long do you have to wait between transit connections?

- Possibly 20 minutes for F line- unpredictable
- No more than 15 minutes because of my scheduling
- Normally 10-15 minutes; worse case 20-30 minutes
- 5-20 minutes
- Anywhere from 5-15 minutes is my wait
- In the morning not very long- in the afternoon in Oakland about 10-15 minutes
- I usually time it the best I can (bus schedules are terribly hard to find and not accurate)- around 15 minutes tops.
- It is really unpredictable. Sometimes I get really lucky and catch a MUNI train- other times I wait 20 minutes for a train.
- 10-15 minutes
- About 5-20 minutes
- 2-10 minutes
-

4) Do you know what time your connecting service will arrive? If not, how would you want to obtain this information?

- No for F line- it says that it runs every 7 to 15 minutes/ Real time signs- MUNI bus 10- look it up online but it is never accurate
- Yes
- I don't know when the F will get there. Real time displays that are accurate would help
- No- schedule printed at bus kiosk, have MUNI buses actually follow their schedules
- I obtain my connection by listening to announcement or read the signage in the kiosks
- I've been doing it for years, but I use the electric sign above the train tracks or the schedule on the bottom of the stairs
- A clear precise SF bus schedule. I never know when the #1 going up Sac after 6pm will arrive
- No, I don't know. I just wait or I ask my friend at MUNI for an update.
- No. Accurate signage or real time information
- No, I don't know when my connecting service will arrive. I would like this information in a "fare and schedules" booklet
- Not for MUNI. I rely on the BART schedules and real time signage.

5) What aspects of your transit connections work well?

- BART runs on-time or you get accurate updates
- 19th BART to Embarcadero
- MUNI stops right at the exit from the station
- Ferry always/nearly always on time
- Knowing that I don't have to wait long
- Most all
- Frequent bus stops therefore easy to jump on- also, cable car is frequent

- Catching the ferry is paramount, it gets me home, and MUNI gets me to the ferry. MUNI is unreliable.
- Ferry to Embarcadero hub
- Timeliness, efficiency
- BART connections at MacArthur. #35 tends to be on time

6) What aspects of your transit connections could be improved?

- F line too full/ long waits then 2 or 3 cars come together
- AC transit to boat and the reverse trip- AC transit needs to honor their schedule
- MUNI operational tempo
- MUNI- timeliness, frequency, and courtesy/ sensitivity training for buses
- Not very much/ GPS schedule
- ?
- Sometimes the #1 bus won't stop and I don't know why
- More balanced arrival/departure of trains
- Takes too long to get from financial district on MUNI or BART (ONE HOUR OR MORE)
- Directions (as far as where you are within the station)
- 1 Pass or ticket for both BART and MUNI. Also, more accurate real time info for MUNI

7) Do you have any suggestions for improving the items you mentioned in the question above?

- No
- AC transit drivers need to try to keep schedule
- Make MUNI adhere to their timetable
- De-unionize- break them (the union); courtesy training for drivers/operators; too many stops on routes- eliminate some or have more "limited" buses
- Providing delay information G.P.S.
- Just improvement of the signs I've mentioned in previous statements- size, color, etc.
- Good bus schedule!!! Accurate!
- Better trained operators, more up-to-date info on delays/ arrivals/ departures
- MUNI should schedule appropriately, not haphazardly
- Maybe follow the model of the airport, where everything is clearly marked and you know where everything is
- A "credit card" that worked for all major transit systems- BART, MUNI, train, and bus, AC transit

Closing Questions:

1) To what extent do you feel you are a customer of a particular transit agency or have a special relationship to a transit agency? Or, do you use whatever operator meets your needs? (Name any specific agencies)

- I love BART! I think it is well run, clean, on time keeps me informed. I choose it over all other agencies. I like the F-line street cars- I like the historic cars and am proud SF has these. They need to run close together during tourist season.
- AC transit #98 is nice- the Coliseum BART personnel know me and my Grand daughter and are very friendly and helpful- some of the MUNI drivers after getting to know us are sensitive and kind.
- I have a better relationship with BART because they are dependable. MUNI SUCKS. One driver on F Line is good.
- GG Transit Ferry is a great- knowledgeable operator, friendly, on time. MUNI stinks.
- I don't have a connection with any of the transit operations. I don't feel the transit agencies are sensitive to their customers. BART is a maybe. I am not very happy with the MUNI.
- I feel the management culture of MUNI is so inadequate that it has created an us against them mentality- the drivers have no affinity with proper decency with the riding public and the public has no connection with the MUNI management- the training of everyone from driver to management has to be examined- MUNI culture no longer helps society.
- BART! I couldn't get to work without it.
- I feel dedicated to Baylink. They are 99% on time and if there is a problem they are quick to solve it. If I could do without MUNI, I would. But, it is the more convenient way to get to work for me.
- I favor the Baylink ferry: reliable; efficient; clean; safe. No matter what is happening (short of a transit strike) with BART, bus, carpool, the ferry avoids all of those problems. Staff more courteous and clients nicer.
- As a transit commuter, I list the agencies accordingly: 1. BART 2. Baylink Ferry 3. MUNI- train 4. MUNI- bus
- I feel like a BART customer- partly because they seem to care about customer service. I am a customer of MUNI but I'm not often treated with courtesy and respect. From this focus group it sounds like the ferries treat their customers well.

2) Of the improvements discussed or identified in your questionnaire, which ones are most important to you? Please list the improvements and circle your highest priority improvement.

- 1) More real time signs to let you know when the car is coming- could be done for F line/ aboveground. 2) Direction indicators (like SW, NE) on bus stops. 3) Better scheduling of F-line trains. 4) Make sure that the bus routes on the computer are accurate. 5) Make signage in stations larger, more colorful, in more obvious places. 6) Uniform payment to be used on all agencies. (Person starred 1-3 as the most important improvements).
- A) Sensitivity training for AC transit employees. B) More Seating. C) Supervision in maintaining schedules. D) Wider or more escalators. E) Please reopen restrooms. F) Keep elevators clean. (Person circled A and B).

- Real time signage for street level; uniform payment method; easy transfers; and most importantly, make MUNI keep a schedule.
- 1. Uniform payment method- translink. 2. Maps/Schedules plastered all over the place- MUNI. 3. Keep to schedules- MUNI. 4. More courteous treatment from MUNI operators.
- GPS tracking of transit vehicles; signage- improvement and volume (more signs); consolidate tickets so you only have to use one ticket; real time information.
- MUNI should regain a sense of primary needs and services to both sides- BART does not have this problem
- 1. Real time info above ground in the hubs before going through turnstiles. 2. Signage: bigger, bolder, (colored?). 3. Escalators/ stairs: widen them for easy flow of traffic. 4. Scheduling that is accurate for buses/ MUNI.
- I would prefer MUNI to work on its scheduling. Better frequency of cars. Also, better signage to determine which way to go "inbound" it is hard to tell.
- A) New ferry dock- boats leave on time now. B) Bus to BART
- 1. GPS system for MUNI buses. 2. More people to help commuters. 3. A single-ticket system for buses, trains, BART, and ferries.
- 1 pass for both BART and MUNI including trains and buses; better, more accurate real time info, especially on MUNI; signs outside stations showing real time info- I need this at Berkeley and 24th street stations- I'm already underground at Embarcadero.

Appendices Part A – El Cerrito del Norte

MTC Transit Connectivity Focus Group Results

Section 1 Introduction

1) Where do you live and how do you get to the El Cerrito del Norte transit hub?

- Westcat
- Fairfield- I take the rte 90 starting at the Solano mall, marine world, final destination El Cerrito Del Norte
- Live in San Pablo and drive to the hub
- Hercules- Westcat Jx express bus
- Vallejo- I ride the Vallejo transit bus every weekday (5 days a week)
- Richmond- AC transit/ car- mainly AC transit
- Hercules- I take the Jx express directly to BART early morning hours or after 3:30pm or I take JR through the Richmond terminal or JL through Hilltop shop C
- I live in Richmond and I catch the bus to Del Norte
- El Cerrito- I walk a block from the station
- Catch the bus to BART
- Richmond- AC transit bus
- In El Cerrito- walk to EC Del Norte
- Vallejo- El Cerrito translink bus #80 Marin/York

2) How often do you use this transit hub?

Frequency	Count
Everyday	4
Four-five times a week	7
Two-three times a week	1
Other	1

3) What is the typical purpose of your trip when you travel through this hub?

Purpose of your trip when you travel through this hub	Count
Travel to/from work	8
Travel to/from school	2
Business travel	1
Visit family or friends	4
Shopping/errands	2
Leisure Recreation	3
Other	3

Some people checked more than one response.

Examples of what people wrote in the "other" category: doctor, SSI, getting food, P.O. box, job hunting exhibition, meetings in SF (for the city of SF Commissions), doctors appointments, etc.

4) What is your general impression of this transit hub? *(What two or three words would you use to describe it?)*

- Gave at times, but then you might run into a driver having a bad day
- I feel it is very efficient and most of the time punctual
- Well used and busy
- Chaotic, dirty, disorganized, "on its way down"
- Very busy early morning and it applies the same thing in the afternoon
- Not properly laid out, poor planning
- Quite good
- No traffic, quick, cheap
- Busy, somewhat dangerous at night, quite large
- BART takes me to work and its gets me there on time
- Sufficient most of the time, safe sometimes, inexpensive
- Accessible, relatively safe
- Easy, accessible, clean (compared to other BART stations)

5) On a scale of 1-5, please rate your overall experience passing through this transit hub. *(Please circle a number between 1-5; 1= totally unsatisfactory, 5= totally satisfactory)*

Rating	Count
1	0
2	1
3	1
4	8
5	3

Section 2 Trip Planning

1) What information sources did you use to plan your travel through this hub? Please consider your most typical travel and be specific with your information sources.

- When I have glasses on I can see most of the time. I get off the bus or catch the BART
- I get schedules from City Hall at mall, chamber of commerce, and I have internet
- www.BART.org? .gov? to determine schedules for regular travel I use the posted schedules
- web/ westcat map
- I only use the hub every weekday when I go to school
- Computer/ schedules printed, my BART or 511.org
- The schedules and pamphlets available everywhere, buses, trains
- The BART and bus schedule that was provided
- Internet, BART site, and RSS feed
- Check my schedule and I base my time that way!
- Information booths, schedules, transit information
- BART schedule, timing trains when they pass by the house
- AC transit plan your trip on line, BART personnel

2) How long ago did you first do this trip planning, or is it on-going, depending on your destination? How long have you been traveling this route?

- 1986 (19 years)
- 4 or more years
- Depends on destination- started taking BART regularly in 1999
- Traveling this route 4 years- first researched it using route planner on web- haven't needed to change it
- Between May 1993 and February 1997 when I first got off at El Cerrito del Norte station via Golden Gate transit- 8 years
- 1976 (29 years)
- Began 15 years ago, and continuous on the same buses. I found a problem connecting with buses- the #9 to Berkeley, #45, etc.
- Its on-going, about 8 months
- 6 months, its on-going
- I have been traveling this route for 3 years
- 2000 on-going- 3 to 4 times a week
- On-going
- 1 month, my travel is always different
- I am familiar with this location.
- Traveling this route since BART began

3) On a scale of 1-5, please rate how easy or difficult it was (or is) to get the information you need to plan your trip or figure out your route. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	0
2	2
3	5
4	1
5	5

4) Please tell us why you gave the rating you did.

- Because some people will tell you and some drivers won't
- I pride myself to be a resourceful person, and network to receive accurate information
- I put in the starting and ending points and the program gives me alternatives. It may be easy because I have easy points.
- Westcat's map was very difficult to decipher. I get dropped off at the Hercules transit center because the route for the 15 bus is unreliable.
- It is tough to catch the BART train, but I miss it after 3 minutes.
- 25 years of practice
- I want better schedules
- There's never any schedules on the buses
- It was moderately easy using the site
- I look on the board to see what is the best time for me to leave
- All days aren't the best- some are good, some are not
- As a regular rider living so close to BART, it isn't hard to plan my travel
- Sometimes the info (rate/transfers) is incorrect or not updates. BART personnel are not always available or know about different travel options.

5) Do you have any suggestions for making it easier to plan your trip?

- Tell driver just to tell you what they know
- The system is fine for me. I always plan to depart early.
- None (3)
- Westcat needs route maps and times attached to the signposts by their shelters at Del Norte.
- It needs improvement
- Computer program remembers starting point
- Please give us a good map that shows what buses we can use every time we arrive to a transit station.
- Keep the buses supply of schedules on hand
- Combined AC transit/bus and BART schedules
- Bus and BART should get together on scheduling where when BART come in the bus shouldn't leave until passengers come down or reverse.
- BART personnel being available or knowing about different travel options

Section 3 Hub Information Services

1) Please rate how easy is it to find or locate the information services you need in this hub. By information services, we mean schedules, signage, information kiosks, RealTime schedule information, the Regional Transit Information Case, and maps. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	0
2	0
3	3
4	4
5	6

2) Please tell us why you provided the rating you did.

- N/A
- Certain sides are confusing- I am somewhat computer literate, so I do achieve my planning and ability to arrive at a destination
- I'm not looking for anything complicated- its just on the schedule
- It is generally easy to find the information, but the way it is organized is deplorable and messy. There should be several central locations with full information that is easy to read and correct. Also, westcat needs route maps and times by its shelters AND the AC transit maps at its shelters are actually for the El Cerrito PLAZA station.
- It is easy for me to access regarding the schedule for both bus and BART station
- BART persons cannot tell you which was is 14th street
- They are located in very clear places- what they contain is another matter
- Because I can read and see
- Somewhat easy- could be bigger schedules
- It is in plain view
- All information such as fares, time schedules, etc. are usually posted
- There's schedules and info at all points o the station and there are centralized areas with a kiosk and an operator booth
- It's in a prime visual location

3) For each transit information feature, please check the box that best describes your experience with the feature.

TRANSIT INFORMATION FEATURE	Not Helpful - needs substantial improvement	Somewhat Helpful -could be improved	Very Helpful- no changes needed	Don't Use/ Not Applicable
Schedule Information	2	5	6	
Platform Signs		6	7	
Information Kiosk	1	5	4	3
RealTime Arrival/Departure Information	2	3	7	1

Regional Transit Information Case	2	2	4	5
Transit System Maps	1	6	4	2
Local Neighborhood/Area Maps	5	2	1	5
Other:				

4) How do you prefer to get travel information while on route?

- N/A (2)
- I obtain from my chamber of commerce, I visit mapquest, and I call the transit center
- Like what- delays? Name of station?
- If I haven't already planned my trip, I will use maps at the bus shelters or ask a bus driver (whom I have often found to be completely unknowledgeable, at least at westcat)
- Only when I ride the bus daily
- Cell phone yahoo map service
- Usually the conductor will call for the next station- ok
- Signs on the bus or train itself
- Online
- Through kiosk info and real time- announcements
- Ask driver or passenger
- Ask driver of bus/ local traveler/ call friend who's online 2 do a "plan my trip"

5) What information features did you find most helpful? Please tell us why.

- When BART or bus tells you where you are going
- Section 1 it substantiates the line of questioning
- Real time- how long until the next train
- At each shelter say for the 72 bus by AC transit I need a map as well as a timetable for that bus
- Platform signs need improvement
- Next bus when working
- The schedules inside the station with arrivals and departures- can more be installed in different places?
- The BART schedule because the timing is accurate
- RSS feed and internet because it comes right to my desk
- Platform
- N/A
- BART schedule (printed), realtime, and web are not always accurate or ask the BART/ AC transit driver or clerk
- BART maps/ realtime/ platform signs- in good accessible places/view

6) What features did you find least helpful? Please tell us why.

- When you are waiting on BART and it doesn't come and morons come on inside and tell you why
- Section 2- it sometimes seems redundant
- In an unfamiliar station I frequently can't tell what platforms are for what destinations- signs blend in with the background
- Firstly, incorrect AC transit maps at their shelter- also, regional transit info board is very poorly organized.
- Departure information need improvement because of 2 to 3 schedules going to SF to Daly City/ SFO Millbrae- is has to be reduced
- Bus schedules, A/C transit
- Eliminate the regional transit information case
- Bus schedules because they're not helpful
- Schedules- because they are often inaccurate
- Information booth
- N/A (2)
- Bus route maps/ time table- hard to read

7) Do you have any suggestions on how to improve the features you mentioned in question 6?

- Just be constant that people know what time you are going to leave or come
- Have random questionnaire surveys, have customers focus groups like we are having tonight
- Large signs- brighter colors
- 1. Get the right maps 2. Print up an easy to read large poster for the transit system- spend the money to do it right (2)
- Adjust schedules for six months of construction
- If you must display, it should be visible from every angle
- Always keep some handy
- Make the schedules more accurate
- Personnel should know more about other transit too
- N/A
- Provide up to date train info and bus info on real time screen
- No

8) These next two questions relate to the hub's amenities. Examples of amenities include: restrooms, telephones, bicycle parking, bus shelters and benches, taxi stations, or elevators.

a) What amenities at this hub do you use? (list all that apply)

- Bathroom
- I sometimes feel the restrooms could get a complete makeover
- Benches

- Bathrooms, pay phones
- I choose the lavatories because people are misusing them when they never dump toilet papers into the toilet. Also, the lavatories sometimes are filthy and need to be cleaned up daily.
- Benches, elevators, restrooms, bus shelters (need protection against wind)
- Bathrooms are always in unfathomable conditions- anybody care or check the way they look?
- None (2)
- Telephone, bus shelters
- Restrooms, benches, telephones, taxis, elevators
- Restrooms, elevators, escalators, taxi
- Bus shelters, bike parking, restrooms

b) Do you have any suggestions for what amenities could be added or improved?

- Keep bathroom clean
- I will remain with the restrooms
- It could all stand a good cleaning
- Bathrooms are COMPLETELY filthy always- payphones are often out of order
- Same as above
- Provide wind breaks/ blowing rain from entering bus shelters
- Please no amenities- just clean the bathrooms, stairs, and entrance
- The restrooms could be improved a lot
- More bathrooms
- Put something outside to let us know the train is coming
- None
- Restrooms- remodeling, bus shelters- need benches
- Clean restrooms, light areas by bike parking

Section 4 Barriers/Problems

1) Do you experience any barriers or problems when you pass through this hub? If yes, please describe them.

- No (3)
- The homeless recipients, and some of the debris left on grounds- especially trash cans
- There is an odd stop sign on the San Pablo Ave. side- some people stop and some don't. I don't know if it's only for buses and not cars. My experience with the people standing on the right and walking on the left has been good.
- Problem: can't use bathroom because they are so filthy; problem: not enough officers enforcing codes (cleanliness, smoking, eating) even though there is a sub-station right at Del Norte
- No, I never have any problems
- BART to bus machine always out of tickets next to elevator, have to cross over second machine
- "Please keep your right going up or down" sign
- Too many people not enough seats- there's never anywhere to sit on the train/ longer trains
- When I get off at night from BART the bus that I catch to go home doesn't stop. So we have to walk. Need to get new change machine ticket to BART machine is always out.
- Especially during evening commutes and school hours everyone is rushing- some are irritable, tired, some are just not polite at all- agents, change a ticket vendors
- Ticket machines (especially on Hill St. side station), change machine

2) Do you have any suggestions or solutions for the problems you identified in the question above?

- No (6)
- I feel maybe installations of monitors and BART police patrol closer to the stations
- Bathrooms are far away from station agent- need to be cleaned several times a day. Officers need to patrol station diligently and regularly
- Move second BART machine to where news paper bin is
- Add another escalator or stairs
- Need to get new machine and to make BART to bus tickets available
- There are a few adjustments needed
- Daily/Weekly Maintenance

3) Would it be helpful to you or those you travel with if information were also available in another language? If yes, please tell us what language (besides English) would be helpful.

- No (3)
- I have no problem with language anymore
- Yes, as many as there are in the Bay area- Spanish, Chinese, Korean- whatever is most used
- No. People should speak English.
- French and Tagalog

- N/A
- Just one language please
- Yes, because not everyone speaks the same language
- Spanish
- Yes, there are other races traveling on a daily basis- I would say it would be a courtesy to those who do not speak the English language or understand
- Not for me, but probably Spanish and Chinese for others

Section 5 Service Connections

1) What transit connections do you make while passing through this hub? Please tell us the types of transit and operators you use for your usual trip.

- Fremont train- Sometimes the platforms can get confusing
- I don't- I drive in, park, and get on BART- On occasions where I take the bus or another BART, its beyond this station
- Connect to westcat usually Jx, sometimes JR or JL buses
- I get off from El Cerrito del Norte station to 12th St- Civic Center BART station as well to Lake Merritt Station
- AC/ Car/ Walk to BART
- Westcat to BART, AC from BART to Berkeley, MUNI from BART to UCSF
- Bus to BART, BART to bus
- None at this station
- AC transit 72 to BART
- Normally I catch a Fremont train to get to Dublin/ Pleasanton after transfer to bus delta transit to Stockton
- None
- Bus, BART, MUNI

(one person did not answer)

2) On a scale of one to five, please rate your transit connection experience traveling through this hub. Please use an average travel day for your response. *(Please* circle a number from 1-5; 1= totally unsatisfactory, 5= totally satisfactory.)

Rating	Count
1	0
2	0
3	4
4	5
5	3

(two people did not answer)

3) How long do you have to wait between transit connections?

- 2-10 minutes
- Not very long- I am fortunate in waiting for transit connections
- N/A (2)
- Usually very little Sat at least 4X a month, longer than 20 minutes- not a good on time record
- Sometimes earlier or late depending on my schedules
- About 40 minutes because of construction on San Pablo

- Very long between BART and MUNI trains (N)
- Maybe about 10-20 minutes
- 20 minutes at Ashby
- 30-45 minutes
- Most the time it's a short wait
- 5-20 minutes
-

4) Do you know what time your connecting service will arrive? If not, how would you want to obtain this information?

- Not all the time
- I have my schedules with me
- N/A (2)
- No- I just catch the next bus that comes. I would like to find it at the shelter or a sign with both maps and buses
- Yes, same as above
- AC bus is scheduled 15 til 15 after hour- never follows printed schedule
- Schedules before getting into the station and on the station sign while walking
- Sometimes
- No
- Yes
- Yes, most of the time I've checked my traveling schedule ahead of time
- No- look at schedule

5) What aspects of your transit connections work well?

- Westcat
- I have good experience
- N/A (4)
- Most of the connections do work well
- Only if I get to the BART station on time
- BART to MUNI in SF
- Westcat to BART
- The bus to BART works the best because BART is always on time
- Going to the BART station
- Transfers, 10-pass bus ride ticket, ticket purchasing machines

6) What aspects of your transit connections could be improved?

- When the Westcat leaves the 76 is also leaving
- Have more monitors
- N/A (4)

- Signage at Westcat shelter- the need for a paper transfer- the inability to use a transfer to BART from Westcat- get the regional transit card ready!
- In the future, a 24-hour service
- AC/BART schedules closer in time of each other
- BART to MUNI trains
- Vice versa
- Ashby BART AC transit transfer machine is wrong
- Announcements and sign outside telling what trains are coming

7) Do you have any suggestions for improving the items you mentioned in the question above?

- No (4)
- I am aware projects take time- I am patient and willing to wait
- I don't use it, but from listening tonight, it seems that some variation of arrival and departure screens would be useful- show the next 5 (or so) times that a particular transit- bus or BART- would arrive. Downtown Berkeley used to have something like this.
- Paper transfers are generally useless/ unavailable inaccessible and inequitable
- Revamp schedules
- Schedules
- Need to extend the bus/ BART/ transit we use at night
- Make some expansions and announcing improvements
- N/A
- Announcements and sign outside telling what trains are coming

Closing Questions:

1) To what extent do you feel you are a customer of a particular transit agency or have a special relationship to a transit agency? Or, do you use whatever operator meets your needs? (Name any specific agencies)

- Yes and No
- County connection, peasant hill BART, and the Fairfield transit center, AMTRAK- I am acquainted with personnel
- BART
- I am a customer of both BART and Westcat. This is primarily because I have no other choice. I would not use Westcat if BART went to Hercules (I can dream) because the drivers are rude, unknowledgeable, and often late and their buses are dirty and there are too few buses to serve the needs of Hercules residents
- YES, Vallejo Transit Bus service- I also use AC transit when I go to Alameda and Berkeley
- AC/BART/MUNI- Del Norte to Civic Center
- N/A (3)
- I do believe that I am a customer of BART- I use BART and bus
- Del Norte BART/ AC transit- use BART more than I use AC transit
- AC transit, del Norte BART, 80 bus lines, Delta bus lines, Amtrak
- No

2) Of the improvements discussed or identified in your questionnaire, which ones are most important to you? Please list the improvements and circle your highest priority improvement.

- Keep Bathrooms Clean
- 1. Cleanliness of Restrooms 2. They have tea you can purchase at the BART safety 3. Attendants are approachable because I am acquainted with them 4. Certain vehicle operations I am acquainted
- Clean the stations- Screens with connection times- clearer signage- I'd go for later hours- and earlier on the weekend
- 1. Cleaner bathrooms 2. Correct signage at bus shelter with timetables and maps 3. Move/improve the transfer kiosk 4. Extra $10/$20 change machine on Hill Street exit 4. Cleaner station- stairs, platforms 5. Signs telling/recommending people to walk left/ stand right 6. BART could learn a lot from DC's metro system which was found on BART 7. Do something effective about the pigeon poop 8. Add visual and audio announcements of trains approaching the station- such as the large real time signs that are on the platforms- that are visible and available from OUTSIDE the station 9. Add vendors such as dry cleaners, video store, on the hill street side of the station- people drop off in the morning and pick up at night
- I would say we need more BART police officers to enforce its security, especially for people, who are evaders
- 1. BART to bus machines in central location for stairs and escalator 2. More fare gates in direction of time of day- A.M. in and P.M. out
- Cleanliness throughout BART system- better lights- schedules

- 1. Less traffic by adding more fare gates 2. That you can use 2 tickets to make 1 3. More schedules
- More escalators, night security, change in dollar bills, later hours!!!
- 1. Change machine sign 2. Fare machine 3. Clean restrooms
- Sanitize elevators, restrooms, escalators- change vendors, ticket vendors, safety, security
- Barriers: ticket machine maintenance, safety, communication between BART and bus transits
- Plan your trip (on line AC transit) it would help if the information it gave was correct and the plan your trip option was easy to find online; signs outside BART station telling train info; being able to add BART tickets together (when fares are too low you can only add money to ticket you can't add ticket together- it forces me to just waste money, I'm not getting to access all of my purchase); increase hours of operation

MTC Transit Connectivity Focus Group Results

Section 1 Introduction

1) Where do you live and how do you get to the San Rafael Transit Center?

- Wheelchair
- I live in Petaluma and I ride with my sister who works in SR to the transit center
- I live in North Oakland on 54th Street between MLK and Shattuck Ave. I leave about 6:10am. I get to the SRTC by walk, by BART and finally either the 40 or 42 Golden Gate bus
- 1111 Fourth Street (Central San Rafael)- walk or bicycle
- San Francisco- I get a carpool ride to SRTC
- Novato- take either the 57/59 bus or the 70/80 bus
- Tamal Vista- on 4th street- catch the bus #22 to the transit center
- Pacifica- I start by taking San Trans to the Colma BART station, which drops me off at the Civic Center in SF. The I take Golden Gate transit (the 80) to the SR transit center
- I live in San Rafael- I walk to the transit center
- San Rafael (2)

2) How often do you use this transit hub?

Frequency	Count
Everyday	4
Four-five times a week	7
Two-three times a week	0
Other	0

3) What is the typical purpose of your trip when you travel through this hub?

Purpose of your trip when you travel through this hub	Count
Travel to/from work	8
Travel to/from school	3
Business travel	1
Visit family or friends	3
Shopping/errands	3
Leisure Recreation	2
Other (doctors)	2

(Some people checked more than one response)

4) What is your general impression of this transit hub? *(What two or three words would you use to describe it?)*

- Functional
- Not enough security
- Sometimes- it usually depends on who is driving the bus
- Under pressure- doing a passable job but needs improvement!
- Busy, functional, smelly bus exhaust! Waiting, noisy
- To slow or to fast, sloppy
- The service is wonderful- that's to all busses 80, 70, 22, 23. ETS is nice and clean.
- Familiar, convenient, central
- It is nice
- Busy, dirty, chaotic
- Good

5) On a scale of 1-5, please rate your overall experience passing through this transit hub. *(Please circle a number between 1-5; 1= totally unsatisfactory, 5= totally satisfactory)*

Rating	Count
1	0
2	0
3	4
4	5
5	2

Section 2 Trip Planning

1) What information sources did you use to plan your travel through this hub? Please consider your most typical travel and be specific with your information sources.

- Schedule book, 511.org, 455-2000
- 511 by phone
- I was told about this route by a former student of mine. Before that I drove.
- 1. Printed schedules 2. Detailed area maps (including bicyclists' maps 3. Computer services: Bay area traveler's website 4. Anecdotal info
- Brochure of GG transit (bus schedule), internet- 511.org, GG transit.org, asked a bus driver too- very friendly
- If I don't have the bus schedule handy, I go online to goldengatetransit.org and pull up my info.
- The bus schedule guide line- very handy
- Bus schedules
- GGT bus schedule
- Internet, www.ggt.org
- N/A

2) How long ago did you first do this trip planning, or is it on-going, depending on your destination? How long have you been traveling this route?

- On-going, many varying destinations
- 3 months
- Sept 1996- to now
- On-going and constantly changing, for seasons: 1. schedule cutbacks/change 2. new research/employment demand 3. desire for constant improvement
- A month ago (I started with ferries and switched to busses because of the time and money)
- I pretty much have the hang of it with my bus route. I've been going to Oakland for almost two years now.
- Almost 10 months only
- I've only been doing this specific route about two weeks. Start planning the night before? The morning of
- 8 years- on-going
- 3 years now, everyday, on-going
- N/A

3) On a scale of 1-5, please rate how easy or difficult it was (or is) to get the information you need to plan your trip or figure out your route. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	0
2	1
3	2
4	4
5	4

4) Please tell us why you gave the rating you did.

- 511 voice recognition does not work with the noise of the hub
- I think that the 511 information needs a little improvement on letting us know other options or routes in case we miss our bus
- Because, I had no problems at first I did take the BART to SF and then got from SF
- Extremely difficult a) on weekend or when planning weekend travel b) when using routes that are not 9-5, upper middle class commuter oriented routes
- Well, it was pretty easy, but GG transit brochures are kind of scarce I think…
- Trying to call 511 can be a pain
- It is easy to go from your destination unless you're on time
- San Trans is very different from GGT. They stop running very early, which makes it difficult. Otherwise easy
- The schedules are very detailed
- Internet access is easy- info is easy to obtain
- N/A

5) Do you have any suggestions for making it easier to plan your trip?

- Advertise the 455-2000 in the schedule book
- Like I mentioned before, more information should be given to us so we can plan our trip better
- No (3)
- 1. Synchronize all transfer point arrivals and departures 2. Expand late night and weekend service 3. Do through surveys or usage patterns
- Have lots of brochures here at SRTC, information booth! with large comprehensive map!
- It's easy for me since I know my routes, but anyone should be able to get the information easily. Intercoms that connect to 511, so you don't need a cell phone to call
- To get a bus schedule- and follow it
- Better schedules for San Trans, more specific, longer running buses
- You must get rid of your useless 511 number. 511 is absolutely horrible- put a live operator back on!
-

Section 3 Hub Information Services

1) Please rate how easy is it to find or locate the information services you need in this hub. By information services, we mean schedules, signage, information kiosks, RealTime schedule information, the Regional Transit Information Case, and maps. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	0
2	1
3	3
4	2
5	5

2) Please tell us why you provided the rating you did.

- Schedule books only on busses- no info for other transit services- no maps, lacking knowledgeable staff
- Because I think they don't have enough information at this hub, but their time schedule is good
- Sometimes it is hard to figure the correct directions, when you are going on the schedule
- It's Marin
- Pretty easy- totally functional
- Because they are posted clearly
- It is just on a schedule
- The info provided seems disorganized. Makes it so my eyes can't focus on the schedule I need to see, cause they all seem blended together
- I use the hub a lot and they are marked clearly
- Signs are easy to read
- N/A

3) For each transit information feature, please check the box that best describes your experience with the feature.

TRANSIT INFORMATION FEATURE	Not Helpful - needs substantial improvement	Somewhat Helpful -could be improved	Very Helpful- no changes needed	Don't Use/ Not Applicable
Schedule Information	1	5	4	
Platform Signs	1	4	4	1
Information Kiosk	1	1		8
RealTime Arrival/Departure Information	2	3	2	3
Regional Transit Information Case	2	1	1	6

Transit System Maps	1	4	2	3
Local Neighborhood/Area Maps	1	3	1	5
Other:				

(one person did not respond to this question)

4) How do you prefer to get travel information while on route?

- N/A (2)
- Golden Gate Transit Schedule Book
- 1. Observation- make my own maps/guides 2. Light socializing with local residents/ riders 3. (if possible) conversation with drivers
- GG Schedule Booklet
- I like to check the bus booklet, but would like a "real time" feature added to the hub
- Bus schedule
- Printed booked bus schedules
- The book
- Do what BART does- have a sign that says "__" train arriving in 3 minutes, with a voice, etc.
-

5) What information features did you find most helpful? Please tell us why.

- N/A (3)
- The real time schedule
- Schedule info- basic framework, personal/anecdotal information gained from my own sources
- Maps and Schedules functional
- I guess the bus schedule booklet is most helpful. It lists all the bus lines, times, and where they're going
- It is the schedule
- Schedule info- that's the only information I usually need
- Schedule info because if I forget my book it was on the wall
- Signs showing where bus is loading- find unloading

6) What features did you find least helpful? Please tell us why.

- Refer to question 2
- Platform signs- not all the routes have the destination written down
- N/A (3)
- Regional transit case
- Didn't see local maps
- The information boards are old, cracked, and hard to see through

- It is with the 511, they do delay or hang up
- Maps (any kind), I don't use them
- 511 phone

7) Do you have any suggestions on how to improve the features you mentioned in question 6?

- More detailed info
- They should put down the destinations on every stop
- N/A
- Better salaries/incentives for weekend workers/ info
- Have maps and signs to local neighborhood shops, etc. make more obvious
- Get new cases and an information person for GGT
- They should check, should be accurate
- No (2)
- 511 is the worst I have ever seen- totally useless- the people who suggested this should be fired
- None

8) These next two questions relate to the hub's amenities. Examples of amenities include: restrooms, telephones, bicycle parking, bus shelters and benches, taxi stations, or elevators.

a) What amenities at this hub do you use? (list all that apply)

- Restrooms, benches
- None (2)
- Restrooms, bus shelters, and benches
- Restrooms, benches
- Restrooms, telephones, bus shelter/bench
- Phones, benches, and restrooms
- Restrooms, benches, bus shelters, telephones, taxi stations
- Restrooms, benches, taxi (sometimes in emergencies)
- Restrooms
- Yes

b) Do you have any suggestions for what amenities could be added or improved?

- More comfortable seats
- No
- Discount ticket service for seniors
- 1. improve security in restrooms- ex: locking individual commodes 2. cleaner benches 3. late night/ weekend cafes 3. more reliable bike access to buses

- More heating in bus shelter (inside), free restrooms! What a concept! Sometimes your only quarters are for the bus- a change machine
- The bathrooms could be improved- they are very old and dirty. They should add more benches/ seating around the hub
- The restrooms- could have more paper
- All, they all seem dirty to me- better seating while waiting
- Recliners for while you wait
- 1. (Oh Yes) get rid of (511) put a live operator back on 2. Have an information booth with live people ready to provide info and get rid of your useless security people and hire a police officer to provide security
- N/A

Section 4 Barriers/Problems

1) Do you experience any barriers or problems when you pass through this hub? If yes, please describe them.

- Access to information: schedules, outside trip planning info
- No (3)
- Refusing to open the backdoor to let you get off the door quickly to catch your bus
- 1. Hostility of drivers towards cyclists 2. Lack of synchronization at (non-rush hour) transfer points ex: afternoon GGT 29 Larkspur ferry 3. unpredictability- must allow one full hour more to get there on time
- Sometimes the bus is late- getting change can be a hassle
- Usually it's the bus drivers who cause the trouble. They're very rude. Sometimes the bike rack is full so I have to wait until h next bus.
- Bus drivers are rude. It is busy and too noisy- also the toilets should be nice and clean
- Buses being late
- Bike racks on bus are full- must wait for next bus and hope that there is a spot

2) Do you have any suggestions or solutions for the problems you identified in the question above?

- Provide information for BART, AC transit, MUNI, GGT arrival info
- N/A (2)
- 1. Regional cooperation vis a vis schedule synchronization 2. Attitudinal healing for drivers 3. Expanded bicycle use- regard bikes as essential tool not an (optional) recreational activity
- Make sure buses are on time! Change machine
- Educate the bus drivers on how to use the wheelchair thing better so it doesn't take 20 minutes to load or unload the passenger
- They should check all public places.
- ?
- Allow bikes inside the bus if there is room
- We need digital red signs
- No

3) Would it be helpful to you or those you travel with if information were also available in another language? If yes, please tell us what language (besides English) would be helpful.

- N/A (3)
- It doesn't matter to me
- Yes and No, if real time, real life service is improved language is secondary, but yes, it might make Marin aware of how multicultural the bay area is right now
- No, we live in America and speak English.

- ?
- For other people I've encountered- Europeans, Spanish
- Yes I have because people from other countries come here to visit and speak English but can't read it
- No (2)

Section 5 Service Connections

1) What transit connections do you make while passing through this hub? Please tell us the types of transit and operators you use for your usual trip.

- All GGT- route never the same
- I take any route going to SF and I make no connections here
- From the 40 or 42 to the 70 or 59 or 33
- Bicycle on to bus- ride bike in SF or in the Easy Bay- GGT to Larkspur ferry and from ferry to MUNI 1. 70/80 to SF, MUNI (to various destinations)- can include bicycle on 70/80, ride bike within SF 2. 40/49 to del Norte: a) transfer on 72 ACT to Berkeley or Oakland b) transfer to BART to Berkeley or Oakland 3. 29 GGT to Larkspur ferry: from ferry to MUNI #S or 38 to Japantown or Clement district (can include bike) 4. 29 or 22/23 and 29 to Com Kentfield- ride bike from San Anselmo to Com if connection is not good 5. 23 to Fairfax, and back- business at Fairfax 6. Saturday morning class at IVC- Novato 70/80 to Novato with bike: 3 ½ mile bike ride from Redwood and Grant to IVC campus
- GG transit: I take the 70/80 to SF evenings- sometimes the 24 to Fairfax in mornings
- Take the 40/42 to San Rafael, then jump on the 57/59 or 70/80 to get to the Hamilton Main Gate in Novato
- #22 transit from San Rafael- #80 to Golden Gate Bridge- then to MUNI transfer #15
- Only use Golden Gate 80 to 22 or 29- I have a problem with the buses or lack of buses that go to Com, not timely, difficult, and inconvenient
- Santa Rosa 80- 35 Canal
- 40 to 80 or 70 South
- 22, 29, 70, 80, 40, 42

2) On a scale of one to five, please rate your transit connection experience traveling through this hub. Please use an average travel day for your response. *(Please* circle a number from 1-5; 1= totally unsatisfactory, 5= totally satisfactory.)

Rating	Count
1	0
2	2
3	3
4	3
5	3

3) How long do you have to wait between transit connections?

- ½ hour to hour (next bus) unless I don't miss
- N/A
- 5 to 30 minutes
- 1 minute to 1 hour or more- depends on 1. bike access 2. Synchronization varies wildly, unpredictability

- Usually 20-25 minutes, sometimes 30-40 minutes (max)
- 5-10 minutes
- 15 minutes
- 15 minutes usually at the most
- 30-60 minutes
- 30 minutes to an hour (sometimes I miss connection)
- 30 minutes to 1 hour

4) Do you know what time your connecting service will arrive? If not, how would you want to obtain this information?

- Usually unless I miss the connection
- N/A (2)
- I have no idea, it seems to depend on the driver
- I know through my own efforts, but it would be nice to have computerized and live SVC to check on here
- No- I usually show up when I get dropped off by a co-worker and just wait for the next bus-sometimes schedule brochures
- Yes
- Will check the schedule
- No, I usually just wait or check when I get there
- Yes
- Ask the person who is in line waiting for the same bus

5) What aspects of your transit connections work well?

- When the busses are on time
- N/A (3)
- My walk to the BART station from my house
- Off rush hour, good rush hour, weekends, erratic
- The bus does come, eventually
- I guess that they generally tend to arrive at the same time
- For me they usually happen pretty fast, if you are alert
- Get me where I'm going
- Mornings

6) What aspects of your transit connections could be improved?

- By scheduling more accurate bus arrivals
- N/A (3)
- From El Cerrito del Norte to the hub

- Weekends, late nights- when I am busiest- expand late night schedules and weekend service
- More benches, more buses running!!!
- I just think that all the routes and times could be improved for how much we pay to take the bus
- From SR to Cote Madera, Fairfax, Kentfield, its difficult to know which busses are through-go all the way to your destination or not
- Buses every 15 minutes- busses running more often
- Weekends suck- bus service on 80 at night is the worst

7) Do you have any suggestions for improving the items you mentioned in the question above?

- Allowing more time for the route to
- N/A (4)
- 1. The bus driver could leave on time 2. He/She could let you off at the nearest stop to your next bus 3. They could open the back door and let you off
- Late night and weekend service on 70/80; Larkspur ferry and connection busses; direct route from San Rafael to Berkeley
- More benches, more busses running!!!
- Very important- make the 70/80 northbound get off at Nave Drive and drop off in front of Hamilton Main gate like the 50 used to before they cut it. Have the 70/80 southbound stop at Hamilton Parkway!!!
- Better organized bus scheduling
- Oh yes- what the hell are you people thinking? Why does the #80 go through Sausalito then Mill Valley, etc. Stupid stupid stupid, change it back.

Closing Questions:

1) To what extent do you feel you are a customer of a particular transit agency or have a special relationship to a transit agency? Or, do you use whatever operator meets your needs? (Name any specific agencies)

- As a disabled person I have developed 1 on 1 relationships on the common most traveled routes for obvious reasons. But, otherwise, I have to create relationships every time in order to have successful interfaces hooking up
- No (5)
- No- I have to dance an intricate dance just to get what I need out of the system. Drivers get rotated on GGT- once you get to know them, they're gone!
- Yes, I'm a customer of GG Transit, the driver's usually courteous and takes me where I need to go, but I just use whichever driver is there.
- No, I feel GGT is very unfriendly and unwelcoming. AC transit is much more friendly and have better routes and better prices. I live in Marin, but when I take AC transit, I feel like a customer.
- Yes, due to traveling daily
- GGT- David is the BEST of the best- heavy set guy, crew cut- he's always kind and friendly everyday

2) Of the improvements discussed or identified in your questionnaire, which ones are most important to you? Please list the improvements and circle your highest priority improvement.

- Routing schedules need to be designed to be more accurate to avoid missed connections- more info on other transit companies
- I would like to know of more alternative options to the 76 E Petaluma Route in case I am not able to take my regular route- I would like to be able to take a later buss (passed 6 o'clock in the evening) to East Petaluma from SF- I think that they should have more buses running, since a lot of people take the 76
- 1. More predictability on the 40/42 route- that is a definite arrival and departure time 2. More information on obtaining discount passes. More location for obtaining them 3. Cut out the increasing in the bus prices.
- Late night and weekend service on the 70 and 80 and the ferries- build up a ridership base of people who work/or enjoy nightlife in the city, but live in Marin/Sonoma. Give it time! Make bicycle use, restroom access, and general pleasantness a priority. Overall, regional coordination, ease of transfer use, fare simplification
- Have more buses running 70/80 to SF evening commute- less wait time; reduce fares!; change machine (working) at hub; more benches for waiting; large local maps of neighborhood shops; info booth with brochures, maps, person working there to answer questions; make buses cleaner (less smelly exhaust); expand late-night service for going to city (and security at the hub); carpool spot, for cars to pick passengers up to avoid fares, etc.(faster than bus)

- 1. Make the 70/80 northbound stop at Hamilton Main Gate. Have the 70/80 southbound stop at Hamilton Parkway 2. Lower the prices- they can't cut routes and raise prices like they do!!! Unfair to the riders! 3. Have information on ALL bay area transit available since most of us leave Marin and have to make another connection.
- 1. The connections- would love to have the schedule on with the other bus 2. Must be on time- service very important 3. Restrooms to be cleaned
- Accessible, clean bathrooms; bus drivers that treat you like a human being and not cattle; better organized routes and schedules; better and more conscience care for the handicapped (people with epilepsy); more affordable bus fare
- Stop greedy fare increases; night owl routes stop canceling routes and clean up the stops
- Improvements: 1. Get rid of 511 2. More seating while waiting for the buses 3. Better seating on buses 4. Ventilate buses 5. Be able to open windows 6. Hire more drivers and increase routes 7. Have an information booth at hub 8. Clean the bathrooms 9. Be able to lock bathrooms 10. lower the fees for service 11. Have dollar day once a month
- Bathrooms

Appendices Part A – San Jose

MTC Transit Connectivity Focus Group Results

Section 1 Introduction

1) Where do you live and how do you get to the San Jose Diridon Station?

- VTA to SJ Diridon with light rail
- San Jose; along Leigh between Fruitvale and Curtner. I get to the transit center by VTA bus, but after October 1, 2005, I will use the light rail at Bascom.
- San Mateo, Caltrain
- I live in San Mateo, and I travel by train and bus.
- Bus #72 to downtown, if I miss my #63 bus I usually walk to the train station which is about a 15 minute walk.
- San Francisco, Caltrains
- Redwood City, Caltrain
- San Francisco, CA- I rode local to it.
- Morgan Hill, bus route 68
- Redwood City by Caltrain
- Pleasanton and ACE
- Fremont- Amtrak Capital Corridor (Fremont- San Jose)
- Evergreen- sometimes I walk to East Ridge and catch the 22 to the train station. Mostly I drive to Diridon Station and park in the parking lot.
- San Francisco- I get to the transit center by one of MUNI, bus, or walk to the Caltrain to the SJTC.
- Discovery Bay- auto to train (ACE) to station- light rail out to work/office.

2) How often do you use this transit hub?

Frequency	Count
Everyday	3
Four-five times a week	10
Two-three times a week	2
Other	0

3) What is the typical purpose of your trip when you travel through this hub?

Purpose of your trip when you travel through this hub	Count
Travel to/from work	15
Travel to/from school	0
Business travel	0
Visit family or friends	0
Shopping/errands	0
Leisure Recreation	0
Other	0

4) What is your general impression of this transit hub? *(What two or three words would you use to describe it?)*

- Great, dirty toilets, changing schedules
- Necessary but minimal in efforts
- Old-fashioned (in a good way), clean, bustling
- Busy, various amenities
- Very organized
- Convenient, efficient
- Spacious, clean, efficient, not bright- a bit dull, needs plants color and music
- I am satisfied- only need more outlets for phone and laptops, etc.
- Outdated- could be much better- getting better though
- Has a lot of connections- not very integrated
- Small- dated- clean and easy to use
- Inadequate maintenance, inadequate capacity, unprofessional and haphazard signage
- Speaking early morning- convenient and not bogged down with a lot of traffic
- Boring, poor signage, the path to go in and out not well defined. Not functional other than a train stop.
- Aged- not user friendly- no connection planning

5) On a scale of 1-5, please rate your overall experience passing through this transit hub. *(Please circle a number between 1-5; 1= totally unsatisfactory, 5= totally satisfactory)*

Rating	Count
1	0
2	2
3	5
4	3
5	5

Section 2 Trip Planning

1) What information sources did you use to plan your travel through this hub? Please consider your most typical travel and be specific with your information sources.

- 511.org
- I access schedules at www.vta.org and www.caltrain.org More often when aboard the bus or train, I get a hold of the paper schedules.
- Caltrain website, printed schedule. Spoke with co-worker who commutes from S.F. who had info about DASH and VTA buses to connect to train.
- My bus and train schedules- if I don't have them I call the agency and get schedule and transfer info.
- The website
- Train schedule (from Caltrain)
- Schedule from the library or on board the train- also, I often check the notice boards at the RWC station. I recently used the Caltrain website because I didn't have a current schedule.
- It is convenient and inexpensive and happy
- Printed hand carryable schedules and internet or call in
- I use the agencies websites for travel information. I also depend on schedules posted at the stations.
- ACE schedule, VTA schedule, DASH schedule, web
- Amtrak capitol corridor timetable, bus times posted at bus stop (Diridon station) for DASH shuttle and DASH timetable
- Caltrain schedule- 511.org
- The web or Caltrain schedule I have in my purse- or the kiosk if I can find it
- Schedules, online, phone assist, radio news

2) How long ago did you first do this trip planning, or is it on-going, depending on your destination? How long have you been traveling this route?

- 2 weeks ago
- My destination often changes, so it varies. More often, since new to San Jose, I am hardly aware of the times of arrival.
- I did the planning about 8-10 weeks ago. I have been traveling this route for almost a month (new job).
- I have been on this route for 5 months. I planned 6 months ago when we found out we were being downsized.
- 1 ½ years
- 4 months
- 8 years
- Since 1971
- Over a year ago- over a year

- I have traveled on this route for 8 years.
- 1 ½ years same plan same schedule
- 2 years- regular weekday travel- I monitor changes to train schedule as train times change periodically
- Year and a half
- Ongoing- I've done this route for 4 months
- Unforeseen- delayed bus, connections, etc.- 6 years- perhaps a VTA board real time at station for delays

3) On a scale of 1-5, please rate how easy or difficult it was (or is) to get the information you need to plan your trip or figure out your route. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	0
2	0
3	3
4	4
5	8

4) Please tell us why you gave the rating you did.

- Easy
- The operators are a 50/50 shot to knowing all the info for their routes and rarely know the connecting companies. The light rails (DASH) do not have schedules on board and the buses are often late.
- The Caltrain website has complete schedule information and I have a hard copy I can refer to at anytime.
- If I had to call an agency they were very helpful with the info. The schedules may not have been right, but they let me know what was available.
- The web is very user friendly and lets you see exactly what trains to take.
- It's adequate, but could be improved.
- Sometimes the DASH bus doesn't come at regular intervals. I heard the frequency was reduced by 50%, but that the written schedule has not changed.
- I'm satisfied.
- Some buses don't have schedules and some trains also. Now the train stations have them posted.
- I am experienced in finding transit information, and I am familiar with this area in general.
- Easy to use.
- Amtrak timetables available and easy to comprehend
- Up until the birth of the baby bullets, travel to and from SF was an hour and 35 minutes
- Schedule is generally easy to read and it doesn't change much- plus trains usually leave on time

- Buses- light rails and trains are frequently not timely and there is not a way to know whether the connecting bus is going to arrive on time or if it has already passed.

5) Do you have any suggestions for making it easier to plan your trip?

- Phone service
- VTA buses should travel more often from main stations and also travel later, especially on weekends- better signage of schedules
- VTA schedule info is hard to decipher- buses especially
- I probably could use the internet, but I choose the telephone
- N/A
- Better signs, employees with knowledge of all trains
- DASH schedules need to be updated. They need to be followed by drivers. We need to make signage/info very big and clear for new visitors to downtown San Jose. The city will greatly benefit.
- Negative- I'm going where/when regardless
- Maybe electronic signs showing more info on the next available bus or trains. Idea: sync the GPS units on the buses with the stops, so they can keep you updated on the bus status.
- Have a central posting area with schedules posted. Better design for information
- No
- None- the station should not be called a transit center (makes it sound like a bus facility.) It would be more effective to call it "San Jose Union Station."
- The Caltrain boards (as you walk down)
- It would be nice if there was a number I could call to get the "next train leaving" depending on destination.
- A transit liaison- connection planner to help schedule all transits to connect properly

1) Please rate how easy is it to find or locate the information services you need in this hub. By information services, we mean schedules, signage, information kiosks, RealTime schedule information, the Regional Transit Information Case, and maps. (Please circle a number from 1-5; 1= very difficult, 5= very easy)

Rating	Count
1	4
2	3
3	4
4	4
5	0

2) Please tell us why you provided the rating you did.

- Caltrains are not numbered correctly. Help desk people only know about Caltrain schedule- they don't know about ACE, Amtrak, VTA, etc. Also, it is impossible to hear speakerphones.
- The schedules are rather easy to spot. Sometimes the supply is out.
- Information specific to Caltrain is easy to find, but the real time info isn't useful- it never seems to convey anything actual, just repeated messages about watching for suspicious activity and stay off of tracks.
- I got confused when catching the Caltrains in the evening. I never know which track to stand on.
- Depends on which side you are coming in
- Schedule information is available, but nothing else. The realtime signs should have arrival/departure information.
- This rating is due to the fact that when trains were delayed in leaving SJ (northbound) there would be NO information on the signs, and the staff did not know either.
- On weekends after 4 P.M.- that's it
- Kiosk is kind of hidden for new riders
- They're all over the place
- Small hub
- Poorly coordinated and unprofessional signage- too much disorganized signage
- Signs are small behind doors and not in the pathway of the train to outside. No clocks!!
- Service is poor for all transit information
- The trains often are on different tracks each day and there is no sign stating which track to find each train.

3) For each transit information feature, please check the box that best describes your experience with the feature.

TRANSIT INFORMATION FEATURE	**Not Helpful - needs substantial improvement**	**Somewhat Helpful -could be improved**	**Very Helpful- no changes needed**	**Did Not See or Notice**
Schedule Information	5	8	1	1
Platform Signs	7	7	1	
Information Kiosk	3	8	1	3
RealTime Arrival/Departure Information	11	3	1	
Regional Transit Information Case	3	6	1	5
Transit System Maps	3	11		1
Local Neighborhood/Area Maps	5	8		2
Other: (call in system, radio, phone)		2		

4) How do you prefer to get travel information while on route?

- Via phone (2)
- Asking the operator since there is hardly much info on the schedules
- I generally don't, except for checking my schedule
- From the conductor
- Ask fellow passengers or maybe there will be a schedule and then I can look at that
- Real time signs, announcements
- Signs, announcements in the station/ on the platform
- Call in system needs longer hours- maybe call in or use up until midnight. The printed schedule also needs improvement.
- Read the schedules posted
- Hardcopy
- Timetables on board train or bus
- Bull horn, real time information
- From operators, drivers, real time signs, radio updates
- (one person did not respond)

5) What information features did you find most helpful? Please tell us why.

- Person at help desk and schedule display
- The VTA schedule information is good at telling times of arrival, but sometimes stops may be between 2 larger stop destinations
- My printed schedule, because I always have it with me
- The real time info. It tells the time and any information you need while waiting for the train.

- With the new bullets added the schedules are at least up to date
- Schedules- Caltrain schedules are readily available easy to understand
- N/A
- 800 number when available- why not make it 24 hours?
- Schedules on the busses and trains
- Schedules so I can determine how long I have to wait, or whether I should change plans
- Signs outdated
- Amtrak capitol corridor timetable readily available in waiting room
- None
- Being able to put your hands on actual paper schedule
- Asking fellow passengers because they are familiar with all the pitfalls

6) What features did you find least helpful? Please tell us why.

- Display boards- showing real time info- the display shows that "ETA SJC 8:40" but we are waiting in the morning- looking for schedule info on departure trains, which is never shown even if it is running late
- The platform signs on DASH and Caltrain- they are not as helpful as BART in telling time of arrival- only when late. Also, all bus stops and DASH stops need posted schedules.
- Real time info because it is essentially non-existent
- The transit map- it doesn't show bus stations very well- if I didn't know the area it would be difficult to determine which bus I should take
- N/A (3)
- Real time information is now communicated
- After hours bus schedule info is not there- It is geared towards day shift workers and not swing or grave
- Local area maps- hard to find them
- Nothing appears coordinated
- Posted Amtrak and Caltrain schedules need substantial improvement
- Schedules are poorly placed- the over head sign is not helpful- need to have next train info
- The snack bar- prices are outrageous and not a wide variety
- The posted notices and schedules because in a hurry there is no simple way to get to the correct connection

7) Do you have any suggestions on how to improve the features you mentioned in question 6?

- Show real time info for arrival and departure
- All VTA:DASH stops need posted schedules or real time- neon arrival times like BART
- Provide "real" real time info- BART does a VERY good job of this, Caltrain does not
- No (2)
- N/A (2)
- Use the signs- make announcements

- Maybe signs outside the station
- Longer hours on telephone assistance- a board in the stations like the airports have, which list the various busses and trains
- Have a big map, similar to those at BART stations
- More "live" signs- also, difficult to tell what track train is on
- The Caltrain schedule board in the concourse needs upgrade and regular updating—these have become worse every year. The plastic numbers and letters are gone.
- Have schedule kiosk on platform and an electric sign with all major times of all transportation systems in and out of station. Also, live people are needed to assist with directing commuters.
- Simplified signage- which bus or shuttle goes where- like the one on the front of the bus, but at the station- so you don't have to wait for each bus

8) These next two questions relate to the hub's amenities. Examples of amenities include: restrooms, telephones, bicycle parking, bus shelters and benches, taxi stations, or elevators.

a) What amenities at this hub do you use? (list all that apply)

- Restrooms, bus shelters (2)
- Restrooms, telephones, bus shelters, taxis
- Restrooms, shelters on platform
- Restrooms, and Amtrak information
- Bathrooms
- Restroom, convenience store
- Electric outlets
- Food vendor and bathrooms
- Bus shelters, benches, restrooms
- Bus shelters= poor; restrooms= poor; food= poor and expensive
- Waiting room benches, platform benches, restroom, news stand, Amtrak ticket office with ticket agents, covered passenger platforms
- None
- Restrooms in station are usually broke and they are taped up for months at a time
- The bathroom is broken apart and dirty- the handicap elevator is out of order and the ramp is too steep and not up to code

b) Do you have any suggestions for what amenities could be added or improved?

- Restrooms need maintenance and fixing- also elevators need help
- Cleaner, working order and well-lit bus shelters- taxi stops should be more plainly marked
- There could be more seating on platform 3, although space is limited by narrowness of platform
- No

- The bathrooms never have paper towels to dry your hands and usually the bathrooms are very dirty.
- Television
- Add real towel paper machines
- More electric outlets
- Vending machines and late restaurants
- The restrooms need to be cleaner. There should be additional canopies to provide shelter from the rain. I don't trust the security with the bike racks.
- Station needs a major face lift
- Expanded food facilities, information booth or agent at the ticket counter
- Coffee stand on outside platform
- N/A
- A complete remodel and repairs kept up- visible security as well

Section 4 Barriers/Problems

1) Do you experience any barriers or problems when you pass through this hub? If yes, please describe them.

- Often there is a delay in trains that slows me down- evening trains also run 10-15 minutes later and cannot check on train information via phone
- The schedule sucks! The time between Caltrains departing is so ridiculous one would just as soon catch the 522. Why is it all the trains on Caltrain just run a straight line up El Camino? The VTA is also faulty for stopping at Menlo Park. Switching to Sam Trans paying a new fare is a headache. Why no transfer honored?
- 1. It is hard to tell which platform the train I want will be one. 2. Bus connections can be hard to make if VTA is running late.
- The only problem I have is identifying the track for the correct Caltrain.
- No (2)
- Not knowing which platform from which my train is leaving
- Sign for Caltrain track is TOO SMALL and NOT DISPLAYED WELL, considering that many of the passengers at the hub will be RIDING the train. In the past (more than now) to learn why a train was late.
- Improper scheduling of the southbound Caltrain to meet the 68 southbound bus at 9:54 pm. This schedule changed and the bus pulls out 5 minutes before the train arrives. Also, we need more trains to Morgan Hill for swing shift workers.
- Doors at the station entrances- long ramps to the platform, which takes longer to get to the platform and makes it harder for conductors to spot- long walking distance and zero signs to indicate the bus stops for 22/522
- Tunnels are NOT marked- arrival gates are NOT always open To EXIT!
- Gates to track one are sometimes slow to be opened when the train pulls in- for most of the day, cannot purchase an ACE ticket- not enough track/platform capacity at station, trains must wait for one train to clear before the next train can enter, need another platform and track 6 and 7
- Passageways are narrow, gets crowded and sometimes I ride my bike and my bike takes up the passageway. Also, when I buy the 10-ride pass, the validating machine doesn't work. I've been late to trains trying to work the validation machine. Trying to figure out platforms
- Figuring out what platform to go to SF
- Missed connections, late connections, missed trains mostly- poorly planned VTA bus to train connections- also, during construction on tracks better updates of track changes, delays, etc.

2) Do you have any suggestions or solutions for the problems you identified in the question above?

- A phone service would be helpful
- Give VTA bus rider a 30-minute reuse transfer. VTA needs a transfer service! The cost is hilarious. The train should run more often and the buses should run later.
- 1. Better signage and real time info, which states which train is on what platform. 2. This is tough because VTA buses encounter traffic, which affects the schedule, but better coordination between agencies for connection would help.
- Either have someone announce which track to get on, or have signs that point out the way

- No (2)
- Real time signs
- Electronic signage- OUTDOORS and INDOORS or at entrances to ramps (downward)- Indoors- above the door to the corridor- Outdoor- signs could be places on 2 sides of the station- also, DASH needs to be improved: 1. updated schedules 2. drivers keeping to the schedule
- Change the bus or train schedule to meet each other or otherwise you have to wait another hour for the next bus- add more trains in the afternoon and late evening to Morgan Hill.
- Better signage to indicate 22/522 at the station, possibly bring them to train plaza- better bus circulation at bus plaza- better signage to point out next bus/ light rail departure at platform- give identity to station elements (bus plaza, etc.)
- LCD- mark tunnels with train info- have gates open upon arrival
- Have someone in the station open the two gates to track #1 before the train pulls in so passenger can make a quick exit from the train into the station.
- Not sure if the above can be fixed. Make validation more efficient or not do it at all. Need better signage as usual.
- Signs need to be visible to the passengers
- An interagency planning liaison or group to help each agency in planning

3) Would it be helpful to you or those you travel with if information were also available in another language? If yes, please tell us what language (besides English) would be helpful.

- Hindi
- Possibly Spanish as well as other languages that the people represent.
- Well, I only speak English, but Spanish and/or Tagalog and/or Vietnamese, etc would help.
- No (4)
- Since this is a multi cultural area it would make sense for other languages.
- N/A (4)
- Spanish, Chinese
- No, but possibly Spanish since we have a lot of Mexican people
- No, English only, there is already too much sign clutter. That would make things 100% worse. Please—no signage in languages other than English.
-

Section 5 Service Connections

1) What transit connections do you make while passing through this hub? Please tell us the types of transit and operators you use for your usual trip.

- VTA- Bus (68)- light rail (Snell to SJ Diridon)
- Bus 65 to San Jose Diridon from Leigh and Stokes- then Caltrain connects to SF. I usually get off at Mt. View and board bus 23 to downtown. I recently found Bascom to Naglee and the Alameda connects bus 22
- I drive from home to San Mateo train station. I take Caltrain and connect to BASH in the morning to Santa Clara St. and San Pedro. My office is on the corner of Market and Santa Clara. In the evening I catch either VTA 64 or VTA 68 at the corner of Market and Santa Clara, back to Diridon (occasionally I walk).
- I use Caltrain and the bus line (22). I use Caltrain to Santa Clara Station- then take 2 to work. After work take the 22 to Caltrain (San Jose) and try to catch the bullet to San Mateo, where I catch the 390 or 391 SAM trans.
- VTA or DASH- catch #72 on McLaughlin and Tully- takes me to 2nd and San Carlos- then either wait 15-20 minutes to catch #63 or walk- use to take DASH, but schedule is screwy now
- BART to Millbrae- Caltrain from Millbrae to San Jose- DASH from station to downtown (1st and Santa Clara)
- DASH to SJSU- I do not usually take DASH back to Diridon station- it is unreliable or can miss a train or barely make a train because the driver came late
- All and any available when needed
- VTA bus to Caltrain north to Palo Alto, CA and from Morgan Hill and South after 9pm
- VTA and Caltrain- Caltrain to VTA 63, 64, 65, 22, or 522 to downtown- could take DASH, but not my preferred choice
- VTA or DASH
- Amtrak capitol corridor from Fremont to San Jose- then I take the DASH shuttle to my office downtown
- From SF I take Caltrain to Diridon- sometimes I take VTA from Diridon to other areas in South Bay
- VTA to Caltrain (#22 to Caltrain Station)- other times I drive
- Light rail- depending on time/day, 180 bus, train (ACE)

2) On a scale of one to five, please rate your transit connection experience traveling through this hub. Please use an average travel day for your response. *(Please* circle a number from 1-5; 1= totally unsatisfactory, 5= totally satisfactory.)

Rating	Count
1	0
2	2
3	7
4	3
5	2

(1 person wrote sometimes for all of the number choices)

3) How long do you have to wait between transit connections?

- 20 minutes (sometimes 40 minutes…)
- 30-45 minutes…that's retarded
- Usually not longer than 10 minutes
- It varies- I reach the station at different times
- 10-15 minutes
- Not at all once I arrive, however, I cannot depend on DASH to get back to the station
- 5 minutes for DASH to meet the Caltrain bullet arriving about 9:45 am
- After 4pm- ?
- Usually 10 to 30 minutes on the trip home- its been changed now its almost an hour delay
- 2-8 minutes
- 5-10 minutes
- 5 minutes max
- If from Caltrain to VTA about 20 minutes
- 10 to 15 minutes
- Minus time- usually running- or very short wait

4) Do you know what time your connecting service will arrive? If not, how would you want to obtain this information?

- Displayed schedule on phone
- I usually have to estimate the between times or call the main station
- No, I just know the DASH goes every few minutes. It's harder in the evening because I have NO idea when the VTA schedule is. I need to get a schedule of VTA, but they're unreadable
- Yes, I have a schedule. I would ask the other people who are waiting for their rides
- Would be nice if buses arrived on time except for emergencies
- Real time signs
- A large line forms at the DASH bus shelter. I use the Caltrain schedule from RWC to know my arrival time.
- Yes and No- 1 need info 24 hours
- Usually, but I would call in if I am not sure
- I take whatever shows up first
- Yes
- Yes, usually the DASH shuttle is waiting or will arrive within 5 minutes
- No, I just wait for the next train. I wouldn't bother to look in the station because I know I couldn't find it
- Yes I do know. If uncertain, I check VTA and Caltrain schedules
- Yes, if on time

5) What aspects of your transit connections work well?

- Connections from home to work

- Nothing except maybe when I'm on the bus or train
- My car to the train station! The train to DASH has worked very well in the morning.
- When I catch Caltrain to Santa Clara station
- #72 bus as I have a window from 5:45 to 6am that I allow
- DASH waits for Caltrain
- That way works well, i.e. from Diridon to SJSU
- 8-5 ok, I'm not 9 to 5
- Caltrain is ok, but signage could be better and it could be improved. Needs quieter trains and smoother ride.
- Ability to transfer
- Consistent
- Short walk from train to DASH shuttle
- Convenient, all at one station- availability of connection is good (VTA and bus and Caltrain)
- Driving to and from Train-station
- The ones that were cancelled or light rail

6) What aspects of your transit connections could be improved?

- Phone service- including delays- service after 10am- connection timing- could be a shuttle service that runs all around SJ
- The frequency of the buses leaving San Jose Diridon- maybe every 15 minutes, also the trains need more frequency
- The VTA connection in the evening can be a little dicey. I've nearly missed my train a couple of times.
- I wish the buses would come sooner and more often during the evening hours- weekend train and bus schedules need to be improved.
- Buses waiting to leave when supposed to
- Better DASH information
- Return from SJSU to Diridon- I used to take a bus to SJCC- I usually needed to wait 20-30 minutes- the line returning to Diridon was very undependable
- 24 hour info
- Better sign display, more trains to Morgan Hill, bathrooms at Santa Teresa, light rail station
- On time, short connections from downtown to train, connection transit are all over the place, more difficult than trip from train
- Shorten the wait time with train arrival
- When it rains, the bus shelter is pretty small when waiting for the DASH shuttle
- Better coordination of timing among the forms of transportation
- Caltrain bullet service could be on time
- 180 bus- it is could not leave civic center prior to time posted on schedule

7) Do you have any suggestions for improving the items you mentioned in the question above?

- How about an internet connection on platform (wi-fi)- VTA bus could run more often in evenings
- More buses, more trains, more often
- Better coordination of schedules between agencies and more frequent buses on some routes
- I just try to catch an earlier train if possible
- Just coordinate with other buses
- DASH schedules
- TV ads, newspaper ads to promote use of public transportation- and an inspector who would be able to board a bus or talk to passengers about their trip- delays, service, cleanliness, safety
- Yes, 24 hour info
- Lit up signs in the tunnels, more trains to Morgan Hill, bathrooms for passengers on busses and light rail, need more bike racks on the busses
- Better operations- make DASH leave on demand in the morning rather than on timetable- simple routing that avoids high traffic street
- DASH and VTA need to work together to coordinate connections
- Large bus shelters—or install long canopies over bus boarding platforms
- The majority of people came off the trains so have bus and VTA go according to train schedules
- N/A
- Remove option to driver to leave Civic center early if he arrive early- he should wait until posted time

Closing Questions:

1) To what extent do you feel you are a customer of a particular transit agency or have a special relationship to a transit agency? Or, do you use whatever operator meets your needs? (Name any specific agencies)

- Caltrain, VTA
- BART, since I was a child, has been my associated agency. VTA and Caltrain are like a retarded stepsister. I don't trust them. I look forward to BART expanding to San Jose.
- I think I am primarily a Caltrain customer and use DASH and VTA peripherally. I also use BART, but only occasionally. But, I have ridden Caltrain the most over the years and have always enjoyed it- the tricky part is connecting with other transit (other than my own car).
- I use Caltrain and SAM trans and VTA daily. I use SAM trans on the weekend.
- Yes VTA and Caltrain
- Caltrain
- Caltrain customer- I also like to use SAM trans buses, most of which are regular and whose drivers are very friendly. Also, a SAM trans customer, but not since I have a car to use.
- None in particular- I need trans as needed
- VTA mainly to Caltrain
- Special relationship with Caltrain, VTA, Sam trans- I will also use whatever operator that meets my needs
- ACE- VTA and DASH
- I have customer loyalty to the Amtrak Capitol Corridor.
- Mostly Caltrain- MUNI
- Caltrain, VTA, MUNI
- ACE, VTA

2) Of the improvements discussed or identified in your questionnaire, which ones are most important to you? Please list the improvements and circle your highest priority improvement.

- Connection to VTA bus and light rails- Wi-Fi on Caltrain and on train stations- CLEAN RESTROOMS
- (In order from least to most) 1. BART is great and needs to expand to San Jose. 2. Caltrain should run later on weekends and more frequently. 3. The VTA light rail should run on weekends. 4. VTA should run more often and accurately.
- Improve restrooms, interagency coordination of schedules, signage, real time info that is TRULY real time with arrival/departure info
- Connecting with the train, bus, or BART schedule- identifying the tracks of the SJ Diridon station- having more buses running during the evening hours, have more transit operating during the weekends
- Time consistency, better amenities, bigger buses, bar cars
- Real time signs

- DASH regularity, signage at Caltrain, enlarge the coffee stand and put tables in corridor, have soft music, paint bright colors, an information desk at DIRIDON, friendlier service at the ticket counters at DIRIDON
- More outlets for electric things
- Bathrooms for travelers, real time better transit signs at station, ability for more bikes on buses, more trains to Morgan Hill or possibly an express bus, busses on time between Caltrain stations from Gilroy to Morgan Hill
- I think service connection is the most important. Improvements in station signage, place finding, shouldn't be a priority
- I would like to reduce connection time from ACE train to San Jose's State University (takes about 15 minutes after change in DASH schedule).
- Information staff member behind ticket counter that can answer all questions regarding any transit operator (VTA, Caltrain, Amtrak, ACE). Improved maintenance of the depot; redesigned signage (get rid of the homemade signs); real time signage; additional tracks (#6 and #7) and another train platform; improved ACE ticketing; shared tickets between ACE and Amtrak between SJ and Fremont- both Amtrak and ACE should honor each others' tickets; on time performance of all trains—helps my transit connection; more Amtrak trains.
- Upgrading station: better signage, clocks, and connecting signs, making more modern- need bullet trains every hour- would also like access to bike maps on or around San Jose available at station
- Customer service from the operators- more visible information- scheduling issues: being on time, leaving on time
- Timing in general! VTA, shuttles, buses and operators have poor attitudes; ACE 40% untimely! Worst on time record on the planet. #2 provide bar cars.

Appendices Part B – Trip Diary Participants / Routes

HUB	City	Gender	Age	Race/ Ethnicity	Route
Dublin Pleasanton	Concord	F	35-45	White	Take Public Transportation from Concord to Dublin/Pleasanton BART Station. Transfer (maybe more than once) to get to Livermore.
Dublin Pleasanton	Pleasanton	M	35-45	Latino	Take public transit from somewhere in Pleasanton to arrive at the Dublin/Pleasanton BART Station. Transfer (maybe more than once) and arrive at SF Embarcadero. Go to Haight Street and Ashbury Street.
Dublin Pleasanton	Concord	M	18-35	Black	Take Public Transportation from Concord to the Dublin/Pleasanton BART station. Transfer (maybe more than once) to arrive at the San Jose Diridon Station
Dublin Pleasanton	Dublin	F	55+	White	Start in Dublin. Take public transit to the Dublin/Pleasanton BART station, transfer (maybe more than once) and go to Milpitas.
El Cerrito del Norte	Berkeley	F	18-35	Latina	Take NON BART public transportation from Berkeley to the El Cerrito del Norte BART station. Transfer, maybe more than once to arrive at Petaluma
El Cerrito del Norte	Oakland	M	55+	White	Take NON BART public transit to the El Cerrito del Norte BART station. Transfer, maybe more than once, to arrive at California and Jones Street in San Francisco.
El Cerrito del Norte	Hayward	F	46-55	Black	Take public transit from your house to the El Cerrito del Norte BART station. Transfer, maybe more than once, to arrive in Fairfax.
El Cerrito Del Norte	El Sobrante	F	55+	White	Take public transit from El Sobrante the El Cerrito del Norte BART station. Transfer, maybe more than once to arrive in Alameda.
San Francisco Embarcadero	South San Francisco	F	35-45	Latina	Take public transit from South San Francisco to SF/E Station. Transfer (maybe more than once to arrive in Alameda.
San Francisco Embarcadero	San Francisco	M	46-55	White	Take NON BART public transit From your house on California Street to SF/E. Transfer maybe more than once to arrive in Vallejo.
San Francisco Embarcadero	San Francisco	F	18-35	Latina	Take NON BART public transit from your home on Fillmore to the SF/E Station. Transfer (maybe more than once) to arrive San Rafael.
San Francisco Embarcadero	San Francisco	F	55+	Black	From your home, Take non-BART transit to SF/E transfer on to public transit and go to downtown Berkeley and return.

San Francisco Embarcadero	Daly City	M	18-35	Asian	Take NON BART public transit from Daly City to SF/E. Transfer maybe more than once to arrive in Emeryville.
San Jose Diridon	San Jose	F	35-45	White/ Asian	Take public transit to the San Jose Diridon Station, transfer, maybe more than once to arrive at the San Rafael Transit Center
San Rafael	Petaluma	M	46-55	White	Start in Petaluma, take public transit to the San Rafael Transit Center (transfer, maybe more than once) to get to Walnut Creek, pick up your son's car.
San Rafael	San Pablo	M	45-55	Black	Take Public transit from San Pablo to the San Rafael Transit Center transfer and go to anywhere in Fairfax.
San Rafael	Corte Madera	F	18-35	White/ Hawaiian	From Corte Madera, take public transit to the San Rafael Transit Center (transfer to a different operator - boat or bus, maybe more than once) to arrive at SF Embarcadero. Take PUBLIC TRANSIT to your friend's house.
San Rafael	Tiburon	M	46-55	Latino	Start in Tiburon, take public transit to San Rafael Transit Center, transfer and take public transit to anywhere in Vallejo.

METROPOLITAN
TRANSPORTATION
COMMISSION

Travel Diary
for the
Regional Transit Connectivity Project

Project to be completed
with assistance from
Moore, Iacofano and Goltsman, Inc. (MIG)
510-845-7549

Travel Diary

MIG, Inc.

Your impressions about your experience as you travel your designated route are very important. Please take this diary with you and complete all four sections as you travel. Please respond to the questions and feel free to add any additional comments about your experience.

Your Travel Route:

Date of travel:

Start time:

Travel Diary

M G, Inc.

Section 1 - Trip Planning
Please describe your experience planning your trip in detail. Please answer the questions and feel free to add any additional comments or experiences.

Please tell us how you planned your trip.
Where did you go for information?
How long did it take you to plan your trip?

Section 1 comments (con't)

Section 2 - Travel
Please tell us about your trip in detail. Here are a few questions to help you complete this section. Feel free to add any additional comments or experiences.

What was your experience while you waited for transit?
What was your experience boarding the train/bus/boat/other?
What was it like buying a ticket or paying your fare?
What was your actual travel experience like?
How long did the different sections of your trip take?
Did you have all the information you needed? If not, what information would you have liked to have?

Section 2 comments (con't)

Section 3 - Transit Connections
Please tell us about your experience making transit connections in detail. Please answer the questions and feel free to add any additional comments or experiences.

Was it difficult or easy to make your connections?
If it was difficult, what would have made it easier?
Did you have to wait?
Did you have to pay an additional fare or did you use a transfer?
Did you feel like you had enough information to get where you needed to go?
Were you confused at any point?

Section 3 comments (con't)

Section 4 - Transit Hub or Main Transit Station
Please tell us about your impressions of the transit hub or main transit station you traveled through. Please answer the questions and feel free to add any additional comments or experiences.

What features in the main transit station did you notice the most?
Were they useful?
How did it feel to be there?
Did you have enough information to get to your destination?
What part of your trip passing through the hub did you like the most? The least?
What would make your trip through the hub a better experience?

Section 4 comments (con't)

CONGRATULATIONS ON COMPLETING YOUR TRIP!
Please contact Beth Altshuler when you complete your Travel Diary: betha@migcom.com, 510-845-7549 x 165

Name: Paula Fryer

Travel Route: Take Public Transportation from Concord to Dublin/Pleasanton BART Station. Transfer (maybe more than once) to get to Livermore.

Date of Travel: 9/24/05

Start Time: 11:10 AM

Section 1: Trip Planning

I planned my trip by reading the schedule "All About BART." I had this pamphlet at home already. I looked at the departure time from Concord BART and saw where I needed to transfer. Unfortunately, I did not check the bus schedule, or see when BART arrived Dublin/Pleasanton. It only took about 5 minutes for me to plan the trip from home, but figuring out the bus took 25 minutes at least.

Section 2: Travel

Boarded Concord 11:10 – train crowded

It was easy boarding the train. I used one of my husband's tickets to get on BART. The ticket only had $1.00 on it, but I knew I could add to it when I arrived in Dublin. The Concord BART was fairly clean and it was a nice ride. I exited the BART to transfer at W. Oakland. I had to wait for 12 minutes for the next BART to Dublin. The signage was very good in direction me to get to the other BART. Unfortunately, the W Oakland BART was smelly and dirty. The trip itself was fine and there were no problems. In Dublin, it was a little more difficult to find out where to go for the bus. I found a map that had a schedule. The bus I wanted to take wasn't available on Saturday (#20), so I had to find another way. I saw the direction for the busses and went there to find schedules.

Section 3: Transit Connections

It was a little difficult to make the transit connection because I didn't plan ahead very well and because it was Saturday. The bus I wanted to take wasn't available on Saturday. Also, there were no pamphlets. At first, I walked the wrong way to catch the bus. It took me about 15 minutes to figure out I needed to go elsewhere. I went back to the BART station, re-read the signage and went the other direction. I had to go to every bus stop and read each schedule to figure out which bus to take. It was somewhat confusing. I took a transfer at the BART station, so I didn't have to pay full fare.

Section 4: Transit hub or Main Transit Station

The hub was very spacious and clean. Everyone was friendly. It felt like a safe area. People seemed happy, like they were on their way to a nice place. I had enough info to get to my destination, although I had 2 different directions (one on the letter and one on this diary). The thing I liked most about the hub was that it was clean and felt safe. Also, there was a BART attendant who was helping people buy tickets. He was nice and helpful. The thing I liked the least was that it was a little confusing as to where to get the bus and find the right schedule. It took me about 25 minutes to figure it out. The hub could have been better if the bus signage was more visible and the map and schedules updated. Also, pamphlets for the bus should have been available at the BART station.

Name: Ruben Hernandez

Travel Route: Take public transit from somewhere in Pleasanton to arrive at the Dublin/Pleasanton BART Station. Transfer (maybe more than once) and arrive at SF Embarcadero. Go to Haight Street and Ashbury Street.

Date of Travel: 9/25/05

Start Time: 10:15 AM

Section 1: Trip Planning

I planned my trip by first going to the Wheels website so I could determine the bus I needed to take to get to the BART station. After I had that set, I checked the BART schedule online to plan, which was the best time for me to get to the BART station. After that, I went to the SFMUNI website to plan my trip to the final destination. I found that I actually had more than one choice of transportation option to reach my destination. It took me about an hour to plan my trip.

Section 2: Travel

Pleasant experience as I waited for the bus. People waiting were helpful. As I boarded the bus and BART, it was easy and there was not many passengers to deal with. Paying for fare was pretty straightforward as they fares were posted clearly. Travel was quiet and surprisingly fast. I sat, read, and before I knew it, I was at my station. The BART ride was approximately 50 minutes and the MUNI ride was about 15 minutes. I read all the information that I needed because I spent time doing the research to insure my schedule was set before I embarked.

Section 3: Transit Connections

Connections were very easy to make. I waited about 5 minutes for the BART train and about 9 minutes for the MUNI rail. This is very minimal wait times. I would say, considering that on other trips on the BART I've had to wait longer. I only had to pay for my BART ticket and used a transfer that saved me 25 cents on the fare for the MUNI rail. I believe that I had all the information needed to complete my route. I was not confused at any point during my trip. Instructions were simple to follow and transportation was flawless.

Section 4: Transit hub or Main Transit Station

I noticed the maps. They were helpful in giving time and stations. I felt comfortable. I had plenty of information. I liked the help I got from the service person at the service desk. The trip went very smooth for me so no change needed.

Name: Willie Waller

Travel Route: Take Public Transportation from Concord to the Dublin/Pleasanton BART station. Transfer (maybe more than once) to arrive at the San Jose Diridon Station

Date of Travel: 9/24/05

The BART ticket read 9/24/05 but BART/bus transfer tickets were all mis-dated and did not read the correct time.

Start Time: 8:00 AM

Section 1: Trip Planning

I planned my trip by using the web. I visited the following sites:

www.BART.gov - BART

www.vta.org - Valley Transportation Authority

www.acerail.com - ACE/Amtrak

I also spoke via telephone to a representative at Valley Transportation Authority (VTA) and at ACE/Amtrak. 1-800-411-RAIL to ask questions, get fare information, and schedule information.

It took about ½ hour to plan.

Section 2: Travel

My experience while I waited was not much fun. I didn't enjoy waiting but who does?

My experiences boarding the train and bus were quite enjoyable because each time I found seating quick and easy.

It was easy to purchase my BART and bus ticket(s) because I had made sure to have proper change beforehand and I already new how much it would be and how to obtain the ticket(s) because I researched this before making the trip.

My actual travel experience was OVERWHELMING. If I had to do it all over again, I would not. It was way too hard to take public transportation from Concord to San Jose Diridon Station.

Each section differed - but all together the one-way trip took 3 hours and 45 minutes. I will bring a breakdown to the focus group.

Yes, I had all of the information I needed to complete the trip.

Section 3: Transit Connections

It was easy at times to make connections and difficult at others. Example: I had a 27 minute wait @ Bay Fair BART Station for the Pleasanton/Dublin train but at McArthur Station, I had no wait (less than a minute) when connecting to an orange line train which would then bring me to Bay Fair Station.

Less waiting time (more frequent trains) would be nice and WAY LESS connections. I can't believe what a person must go through to get from Concord BART to Pleasanton/Dublin BART. To accomplish this, one must get on at Concord - switch at McArthur - switch again at Bay Fair. Then in order to get to San Jose Diridon Station on a SATURDAY, I had to take BART from Pleasanton/Dublin to Fremont BART and board the 180 Express to Diridon Station.

Yes, I waited a lot.

No additional fares needed to be paid because the BART ticket I purchased in Concord got me all the way to Fremont BART at which time I then purchased a bus ticket (as expected) to board the 180 Express from Fremont BART to Diridon Station in San Jose. I used the BART/bus transfer to cut my bus expense in half. Once I got to Fremont BART, I got a transfer and instead of paying $3.50 to ride the bus, I paid half.

Yes, I had enough information to get where I was going - thanks to my research via internet. I also asked a lot of questions at each BART station to confirm I was on the right track. Each of the BART attendants were nice except the first one I spoke to in Concord when I first started. She tried to discourage me from taking the trip stating it would "take forever" to get from Concord to San Jose Diridon on public transportation. In retrospect, she was basically right about that.

Yes, I was confused at the beginning of the trip once I arrived at Concord Station because the attendant was giving so many quick instructions about what route she thought would be best for me to take but instead of her helping me, she confused me and I decided to take the exact route I had originally planned.

Section 4: Transit hub or Main Transit Station

The features at the main transit hub/station were no different than the features of the other BART stations I passed through or used at connections. In fact, I expected that the Pleasanton/Dublin Station would be nicer and newer looking. I didn't see that. In fact, it was just as dirty as the others. I had a misconception that since the station was "newer" that it would look "newer". Furthermore, the BART/bus transfer machines were BOTH broken at this station and the attendant did not seem to care. I asked her to initial by transfer to show I was there since the transfer machine wasn't printing any date, time and/or location. The attendant said she could not help me in this respect but did fix one of the bus/BART transfer machines so it would at least print some information, although incorrect. This station was unorganized and not user friendly. It felt chaotic to be there and at this point the trip was getting "old". At this station we were also stalled in our BART departure because there was a "suspicious individual" on the train that needed to be removed by BART police and had us wait while this situation was taken care of. The trip would have been a better experience if the hub was in better overall condition, machines were working properly and the attendant was willing to be more helpful.

Name: Stephanie Wing

Travel Route: Start in Dublin. Take public transit to the Dublin/Pleasanton BART station, transfer (maybe more than once) and go to Milpitas.

Date of Travel: 9/21/05

Start Time: 10:00 AM leave house. Drove from my house. Arrive 10:06 AM. Waited for 15 minutes.

Drivers name – no tag – no transfer.

Good for 1 hour only. Arrive BART Dublin/Pls on time. Bought ticket – somewhat confusing. Train was on time. Took it to Bayfair.

Section 1: Trip Planning

I went only to BART and Wheels for times and cost and connections. Great tips but not enough info. Drove to BART and got maps/schedule. Found out it was easier to drive to Stoneridge Mall, take Wheels to BART. IT took me 2 hours to plan. I also went back online to www.cctransit.org to see how their information was. You can also call 511 for travel information. Waited 2 minutes for Wheels. Wheels to ? ? 15 minutes with stops.

$1.25 fare – BART 9.60 RT bus/ express 3.50 without transfer - $1.75 with from Fremont BART.

Section 2: Travel

I waited to exact time they said. Met some nice people who gave me tips like getting to transfer and getting a transfer after getting off BART in Freemont. There were plenty of seats and the ride was smooth. Paying was fine but you DO need exact change. I waited for 23 minutes to get the 180 express to the Great Mall. Long wait and had to pay $1.75 plus transfer. Paid 3.50 to come back without transfer – waited a long time, 22 minutes. Took 38 minutes each way. Took BART back – transferred to Bayfair to Dublin – took Wheels back to Stoneridge. Finished around 4:00 PM – I needed exact change – did not know there were 2 buses – 180 express and 217 freeway.

Section 3: Transit Connections

From Dublin BART to Fremont – BART waited 3 minutes.

Waited 22 minutes for bus 180 and to Milipitas. 38 mins to great mall.

Freemont BART to Bayfair 20 minutes.

Bayfair to Dublin _______

Wheels to Stoneridge _______

Waited 12 minutes to catch Dublin from Bayfair

20 minutes to Dublin

Wheels here in Dublin/Pleasanton is always 1.25 unless you use the transfer within an hour. The Wheels ride from BART to Stoneridge was a full bus with a lot of yelling from just released convicts from Santa Rita jail going to the police station. The driver should have more control over his bus and keep people quiet. You also need more time coming back from BART with ALL the stops.

Section 4: Transit hub or Main Transit Station

The BART station was very clean, but I don't like the smokers standing so close to me while I am buying a ticket. I was a little confused on buying my ticket. They had a lot of bus information, but only for that area. I have a bad knee and the escalator was off so that was bad. It was back on when I got back however. I had enough information to take the BART and where to transfer; only the buses were a bit confusing. The bathroom NEEDED to be cleaned better. I also think there should be at least 2 BART people in the info office to help you. Also, the machines where you get the bus transfers need a better sign – larger.

Name: Jessica Luna

Travel Route: Take NON BART public transportation from Berkeley to the El Cerrito del Norte BART station. Transfer, maybe more than once to arrive at Petaluma

Date of Travel: 9/30/05

Start Time: 11:34 Am

Section 1: Trip Planning

First, I logged onto the ACTransit website and clicked onto "Schedules and route maps," which wasn't helpful. Then I came upon the "511 Take Transit Trip Planner," which took care of everything. It's a great service, indicating fares, where and when to board, and how to transfer. It took me about 35 minutes to plan my trip. Some of that time was spent finding a specific destination in Petaluma to log into the trip planner (it wouldn't accept Petaluma as a destination).

Section 2: Travel

My experience waiting for the transit was short the first time and took a while upon transferring. I waited about a minute or tow for the 72/Hilltop Mall. The schedule stated 11:33 and I boarded at 11:34. I arrived at my hub, El Cerrito del Norte, at 11:58. My transfer location was a little unclear. While I searched for it, I missed the 12:04 train. I then waited for the 12:34 train, which left at that time. While I waited, I made change from a $10 and $20 machine. I would appreciate a quarter machine. The 12:34 Golden Gate Transit Bus #42 arrived in San Rafael at 1:13. I waited until 2:02 for the 1:52 Golden Gate Transit Bus #80, which dropped me off at 4th and C Street in Petaluma at 2:56. I walked around downtown Petaluma and just missed the 3:30 #80 southbound. I wandered around until the 4:30 train arrived at 4:41. The #42 northbound had only 3 other passengers in it ($4.50). The #80 northbound was packed with people standing throughout ($1.50). The #80 southbound was much less crowded but the fare was significantly more ($3.95) and I wasn't sure why. I decided to take it into the City and BART back ($3.10) to N. Berkeley BART.

Section 3: Transit Connections

The connections were relatively easy to make. Had I been a regular rider, I probably wouldn't have missed my connections and would've saved about 2 hours on my overall trip. I had no confusion getting there aside from the drivers' muffled announcements and the fare schedule for Golden Gate Transit.

Section 4: Transit hub or Main Transit Station

I noticed a snack stand and plenty of trashcans and benches with overhangs. It felt fine to be there. I would like to see larger, more visible signs for the Golden Gate Transit side of the station. The trip planner indicated that my transfer train would be at the W corner of Del Norte BART – I wish it said NW corner – it may have saved me some confusion.

Train	ETD/Actual	ETA/Actual	Fare
AC#72	11:33/11:34	11:51/11:58	$1.75

GG#42		12:34/12:34	1:15/1:13	$4.50 w transfer ticket	
GG#80		1:52/2:02	2:43/2:56	$1.50	
[Return]					
GG#80		4:28/4:41	6:08/na		$3.95
BART	7:17/na		7:45/na		$3.10

Name: Lawrence Gerald

Travel Route: Take NON BART public transit to the El Cerrito del Norte BART station. Transfer, maybe more than once, to arrive at California and Jones Street in San Francisco.

Date of Travel: 9/27/05

Start Time: 11:35 AM

Section 1: Trip Planning

1 and 2. Looked on Google for Jones/CA Street. Got an idea where it is. I had planned to start off on Ashby and Sacramento St. Walked there from my house, a few minutes away.

3. My trip intent was not to be based on a time schedule but to go with the flow. I did prepare by brining extra quarters and dollar bills.

Section 2: Travel

1. The first bus, 88 arrived within a few minutes while waiting. This was a good feeling upon seeing the bus.

2. Upon boarding the bus, I told the women driver that iw as headed to EC Del N and she told me she could take me to the Berkeley North BART station and of course this made sense but not for this Journey.

3. I asked how much for a ticket and transfer. I first put $1.75 added a quarter for the transfer.

4. It was interesting in having myself remember when I used to regularly take public transportation. This bus driver was very nice. She realized that I was not taking the simple route of her bus to Berkeley North BART and BART over to Del Norte. She along with another woman passenger were discussing my best options to take when my cell phone range. The bus driver suggested I get out at University and Sacramento, walk over to San Pablo or MLK where I could get a direct bus to Del Norte, the #15. The bus driver was compassionate. She didn't to want me to have to buy another transfer so she gave me an additional one at no extra cost. I then walked off her bus, thanking her, walked down to the nearest bus transfer on University and waited for the next bus to take me to San Pablo. I sat down, wrote down some things her and 10 minutes later, the bus came, got on, asked the driver about Del Norte, and he suggested the #72 directly to Del Norte from S. Pablo. I now await for that bus. The third one on the way to Del Norte. I hope it comes soon as Jack hammers are noisily going off a half a block away! Since it is a nice day, I'm considering walking to the next bus stop. Ok. I walked to the next stop on S. Pablo to escape the jackhammers. As I did I saw a 72 Rapid bus go by. It looked like it stopped at my previous bus stop. I cursed out loud that I missed that bus. I was walking fast in anticipation of getting to board that bus at the next stop I was walking to, which I arrived at. Within a few moments the #72M arrived. I asked a waiting passenger at the stop what the difference was between the 72 and the 72M. She said one goes to the Hilltop Mall. I told her thanks. When I boarded the 72 I made sure that it was going to Del Norte by asking the driver. I put my transfer into my hand and tried to it into the transfer device. I had it the wrong way, the

> driver then took it from me and put it correctly in the device. It said it was used up for transfers. I mixed it up with my other transfer, reached into my pocket and put in the device, this time correctly and sat down. It's now 12:32 on my way to Del Norte.

Section 3: Transit Connections

Easy to make connections

Not too long to wait

Yes, pay additional for 1 transfer

Yes, had enough information

No, not confused

Section 4: Transit hub or Main Transit Station

12:50 arrive at Del Norte BART

1 and 2. Well I had the feeling if the train was coming I wanted to be there, get my ticket and go. Once I let go of this I was able to take my time for putting my crumpled dollar bills into the machine. I selected Civic Center so I could then take a bus up Van Ness to California and Jones.

3. Of course a bit relieved, finally here.

4.Yes, everyone I have spoken with has been friendly.

5. Glad that the SFBART train hadn't come when I arrived.

6. Not sure. Now someone has asked me if the SFBART just went by. They had a worried look that they might have missed their train.

SFBART arrived at 1:02 PM. I look forward to enjoying the ride into city and being relaxed.

Arrived off BART at 1:44

Walked up to Civic Center Plaza to V. Ness

Caught #13 bus - $1.50 with transfer at 1:53 PM

Got off my seat for handicapped man with wheelchair. Moved to another seat. Took a short break for a slice of pizza and went back onto Calif. St. Discovered no buses are on the street, just cable car. So called 631-MUNI, got a live person immediately and asked how best to get to Jones St on CA. She told me to walk 2 blocks up to Clay and Polk, the #_ will go to Jones. Then walk down to CA. It's 2:37 waiting for SFMUNI bus. Showed my pass, driver nodded, on the bus, and realized I missed my stop by 4 stops. Left off in Chinatown, I go to have lunch.

"The journey is the destination" (I though of this quote).

Name: Karen Houston

Travel Route: Take public transit from your house to the El Cerrito del Norte BART station. Transfer, maybe more than once, to arrive in Fairfax.

Date of Travel: 9/28/05

Start Time: 10:00 AM left home

1. Hayward BART to El Cerrito del Norte Station 10:30
2. Golden Gate Transit Bus #40/42 to San Rafael Transit center 11:33
3. Bus #23 San Rafael to Fairfax 12:52

Section 1: Trip Planning

I looked on the internet for the transit system in Marin County. I then called Golden Gate Transit for information on bus routes and time. I then went back to their website and planned the time and bus schedules. It took about 30 minutes to get info. Golden Gate transit info was easily found on their webpage.

Section 2: Travel

I did not get BART schedule ahead of time. I had to wait 15 minutes for BART to El Cerrito. BART ride was pleasant. I missed bus to San Rafael it was early. I had to wait 30 minutes for next bus. Bus accepts cash, no problem with fare. Bus was very comfortable and clean. I did not get fare information. Luckily, I had change. I will miss my connecting bus in San Rafael. Wait time will be 35-40 minutes. Golden Gate Bus was pleasant ride. San Rafael Transit center was open air street location. Very noisy and lots of exhaust fumes. Busy traffic location but easy to find connecting buses. Located downtown with easy walk to banks, stores, and restaurants.

Time Hayward-Fairfax

1. Hayward BART to El Norte El Cerrito 40 mins
2. EL Norte to San Rafael 40 mins (35 min wait also to Fairfax)
3. San Rafael to Fairfax 22 mins

Section 3: Transit Connections

BART was an easy ride with no problems to El Cerrito Del Norte Station. Easy to find bus area at El Norte but the signs to determine which bus was Golden Gate were not good. I asked BAERT officer. Wait was 30 minutes. Just missed bus. I had to pay fare and used a transfer in San Rafael. Another 35 minutes wait in San Rafael for Fairfax bus. Except for fare information, I was prepared. Overall experience was good. My waiting was due to my lack of information on bus schedules. I did not think to get times in advance. Golden Gate Transit in Marin has great schedules that allow only minutes to wait for connecting buses. I found this to be true on my return trip. My waits were 2-5 minutes only. Drivers were very helpful. On return trip to San Rafael I had to change from the 23 bus to a 22 bus for more direct route to San Rafael Transit Center. 5 minute wait at same bus location. I was confused when the driver asked me to get off and take the 22, but the other waiting passengers were helpful and explained.

Section 4: Transit hub or Main Transit Station

Hayward BART station is open air and information easy to find. Fares posted near ticket machines. BART always feels comfortable. El Cerrito was gloomy and felt less comfortable. I would not like to be there late night. The bus area for my transfer to San Rafael needed larger sings. San Rafael transit sign was not clearly seen. I like the San Rafael transit center. It was downtown near banks and shops. All signs were clearly seen so you know where to find your bus. The least thing I like was the open-air location of this hub. It can imagine this area during cold and rain. There is no shelter from the bad weather.

Name: Sydney Metrick

Travel Route: Take public transit from El Sobrante the El Cerrito del Norte BART station. Transfer, maybe more than once to arrive in Alameda.

Date of Travel: 9/21/05

Start Time: Got on #70 ACTransit bus at 8:54 AM to go to Richmond BART. Bus was about 85 degrees. 4 other passengers.

Section 1: Trip Planning

I got 3 AC Transit maps. Went on the ACTransit website and the 511 website. The 511 had the wrong info. I called 511 twice after re-interpreting the instructions to mean I could pass through Del Norte rather than stop there. Neither gave me the route I am using. I spent at least 45 minutes planning.

Section 2: Travel

I asked the #70 driver if I could use the transfer when I got off the BART train. He assured me that I could if it was within 2 hours. And I could go in either direction. I see I could have hopped off at SP Ave and transferred to a bus to Del Norte (I think). I asked the driver and he said I could take the 72 or 72R. I hopped off at Vale and SP Ave and am sitting at a filthy kiosk. The 72R arrived at 9:12. It has a wheelchair ramp and straps for the chair! It sopped across from Food Max (closer to the DAM Rd). Tulare stop. The temp. is more comfortable but still warm enough to remove jacket. Waiting for buses and trains was fine. It was a nice day and I chose a non-commute time. I was prepared with lots of single dollar bills. Bus drivers were all knowledgeable and gave correct info.

Section 3: Transit Connections

I arrived at SP and Vale at 9:03. Transferring to the 72R was easy. Bus driver confirmed stop at Del Norte. 9:22 arrive at Del Norte BART. Paid $4.00 for round trip ticket (it was $1.90 each way but the machine didn't give change). The sign says the Daly City Train comes at 9:31 and sure enough… Both Fremont and Daly City trains stop at 12th. 511did not mention Daly City train. Arrive 12th Street Oakland 9:51. Got on 51 bus at 10:02 to Alameda. $2 – got me a transfer to return. Arrive College of Alameda 10:10. Crossed to other side. 10:28 return 51 bus to Oakland. Used transfer no problem. Exit 10:34. Walk down to 12th Street BART. Richmond train announced "2 min". 11 AM back at Del Norte. Waiting for 72R. Got on 72R 11:11 AM paid $2 for ride and transfer. Driver confirmed 70 stops at Food Max. Bus runs every half hour! Back at Appian Way 11:50 AM.

Section 4: Transit hub or Main Transit Station

I've been to Del Norte before. I looked for maps and schedules. They are good as is the LED info and announcements. Another passenger verified that I was on the correct platform, which was the only thing I was confused about.

Name: Pearl Bermudez

Travel Route: Take public transit from South San Francisco to SF/E Station. Transfer (maybe more than once to arrive in Alameda.

Date of Travel: 9/23/05

Start Time: [not recorded]

Section 1: Trip Planning

I went to Yahoo search and typed in "Public Transportation from South San Francisco to Alameda." I then skimmed through the top 10 results. The result that caught my eyes was www.bayareatransit.net. It gave me all the listings of a variety of public transportation info. After looking through all of the types, I decided to do the Ferry to Alameda. Then I checked which bus would take me from my house to the SSF BART station. Then I took BART to the Embarcadero and walked to Ferry Building. I was able to click on all the different links to check for schedules and fares. It took me about 30 minutes to explore. It was easy and fun.

SF to Embarcadero

Bus = $1.50 X2 = $3 30 min = 1 hour

BART = $2.95X2 = $5.90 6:30 to 6:55/8:41 to 9:07

SF to Alameda Ferry = $11 7:25 pm to 7:45/7:45 PM to 8:20

$19.90 = 4 hours

Section 2: Travel

I'm impatient but the BART and ferry was smooth. I don't have patience for San Trams. Boarding everything was fine. Easy to pay all fares. It was nice to do it once in a while but takes too long to do it every day.

Section 3: Transit Connections

It was easy to make connections. No wait, I had the schedule to time it right, so no wait. Yes, additional fares. Total $19.90. Yes enough information. No confusion, it was smooth…☺

Section 4: Transit hub or Main Transit Station

Signs saying where to go to exit for the street. Your looking for. Yes very useful. I didn't feel lost. Busy. But ok. Yes I had enough information for my trip. I liked all the signs and hated the large crowds of people. To travel on off peak hours.

Name: D. Marc Capobianco

Travel Route: Take NON BART public transit From your house on California Street to SF/E. Transfer maybe more than once to arrive in Vallejo.

I walked from health club to MUNI stop in front of Levi's Plaza. Took #10 bus to Clay and Sansome. Walked over to Embarcadero BART entrance by Hyatt Regency, entered, left, exited other stairway, walked to Ferry Plaza, Boarded Baylink ferry to Vallejo, bought 1-way ticket on-board. Ferried back to SF arrived at 4:20. Took Italian Street Car on F Line back to my original point – much easier than MUNI Street line.

Date of Travel: 9/21/05

Start Time: 1:40 PM

Section 1: Trip Planning

Googled "Vallejo Ferry" found www.baylinkferry.com and found link to schedule, downloaded, and printed out pDF. Could not ascertain ETA from sheet, however. Called 877-64-FERRY to hear schedule. Total time: 12 minutes.

Was surprised that #10 bus had replaced the old #44 route that looped Sansome-Battery. New route dropped me off further from my destination and seemed illogical. Hadn't ridden this business since Sansome added 2-way traffic downtown. The ferry was a TRIP! Must've ZOOMED across the bay at 50 knots. Vibrations made writing this hard, but otherwise it was cool. Don't know if I'm ever going to visit Vallejo again, but if I ever do…

Section 2: Travel

No wait. Boarded without ticket, paid on-board at the bar! At Vallejo, I swapped one-way ticket for day pass, saving $3. Bought MUNI tickets for 1-way boat trips to 50 minutes each way. Bus took 5 minutes. I waited longer at the stop. MUNI has added automatic stop call-outs since I last rode. Buses okay, ferry was a blast! Should have had a cocktail but just ate ice cream I bought at Vallejo terminal, getting a snack at Ferry Building needs no comments!

Section 3: Transit Connections

Would have liked underground passageway in SF to connect. Would have been faster than cross streets. If not underground a pedestrian bridge across the Embarcadero would be good. Waits at the bus were a bit long, but then, I was cutting things close. Electronic signs at one stop "bus approaching" would help, like they have at BART. Especially good for stops that service multiple lines. All-in-all not confusing. 2 MUNI tickets = $3 round trip ferry = $17

Section 4: Transit hub or Main Transit Station

Lots of maps and guides to transit systems, but not very clear on finding Vallejo Ferry. Could have used a direct connect (tunnel?) to Ferry Building. Too much pedestrian traffic to stop and read or to concentrate if not directly, then an egress closer to the Embarcadero.

Name: Laurette Garcia

Travel Route: Take not BART public transit from your home on Fillmore to the SF/E Station. Transfer (maybe more than once) to arrive San Rafael.

Date of Travel: 9/22/05

Start Time: 4:00 PM from home Took 4:55 ferry to Larkspur 5:30 bus to San Raphael

Section 1: Trip Planning

At first I had no idea how to get to San Rafael by public transit. I asked my housemate and she suggested a ferry. Then I consulted trip planner on the internet. It gave me various options including a nonstop bus, BART trains and a ferry/bus combo. It took me 45 minutes to plan the entire trip.

Section 2: Travel

Waiting: I did not have to wait until I got to the Ferry Terminal at Embarcadero. I didn't mind waiting though because the Ferry Building was nearby and it was able to get coffee. Once on the ferry I waited about 5 minutes until it left.

Boarding: Bus – it was crowded and I did not find a place to sit. MUNI – easy no crowds. BOAT – great, I was surprised because I did not know I would be dealing with Homeland Security. BUS – no problems, I just walked upstairs

Ticket: Bus/MUNI – I have a fastpass so I just showed it. BOAT – I bought a roundtrip ticket $12.90. There were no lines and it was easy. BUS – I was told by the driver that because I took the ferry I didn't need to pay.

Experience: The entire thing was really good. I especially liked the ferry because I sat outside most of the time and the view was nice. Inside the seats were comfortable. The bus was very comfortable as well. Riding through traffic was slightly annoying.

22 bus – 6 minutes

MUNI – 20 minutes

Ferry – 25-30 minutes

Bus 29-

I had all the information I needed!

Section 3: Transit Connections

Making the connections was not at all difficult. Signs were prominent. I waited about 10 minutes to catch the ferry and 5 minutes to catch the 29. I did not pay an additional fare for the 29 to San Rafael. I had plenty of information and was not confused. As soon as I left the ferry I walked toward the parking lot. I immediately saw a BUS sign and it had all the information I needed about which bus to catch. The only thing I was unsure about was which GG ferry terminal was for

Larkspur, the one on the left or the right. I asked an employee of the building and he pointed me in the right direction.

Section 4: Transit hub or Main Transit Station

There were two hubs I went to, the Ferry Building and the Main San Rafael bus station. At the Ferry Building I noticed the security the most. The bus station was just a huge outside area where lots of buses came and went. Both hubs were fine. At the Ferry Building I did not have enough information at first because there are no signs that tell you which side is for Larkspur. Or, if there were signs, I did not see them. I ended up walking all the way to the wrong ferry at first. I liked getting on the ferry but did not like waiting in line. I didn't like the fact that the bus hub seemed intimidating but I didn't have to transfer so it didn't matter. More signs!

Name: Mark Gerhard

Travel Route: Start in Petaluma, take public transit to the San Rafael Transit Center (transfer, maybe more than once) to get to Walnut Creek, pick up your son's car.

Date of Travel: 9/30/05

Start Time: 10:15 AM

Section 1: Trip Planning

I planned my trip on the Internet. I Googgled, "Public Transit Petaluma to Walnut Creek". I went to Transit511.org and got my schedule information in about 5 minutes time. I couldn't tell for sure if the information was correct for Saturday. I had to go to another website to make sure. I wasn't sure if my son's car would actually be ready so I called on my cell phone during my trip and changed my destination to El Cerrito Del Norte.

Section 2: Travel

1. Walk to bus stop through park panhandlers. Wait at bus stop with man talking to himself, spitting on the ground.

2. and 3. Boarding the bus - don't have exact change - overpay. Bus was very high class – ironic low-income worker on high tech bus.

4. Slow- took 1 hour to get ½ hr by car.

5. 10.30 Petaluma—11.30 San Rafael –1 hr. San Rafael to Richmond—1/2 hour. Richmond to San Rafael—1/2 hour. San Rafael to Petaluma—1 hour. Total riding time: 3 hours. Total waiting time: 1 1/2 hours.

6. Got off in San Raphael- there is no bus station or person to ask a question, get change, etc

511.org had told me to go to SF, but I realized that I could transfer @ San Rafael and go to Richmond BART instead.

I noticed the 42 went to East Bay but wasn't sure without asking- there was NO BART info available in the kiosks. I asked a vendor for help- this must happen a lot.

Took the 42 to East Bay. Got off at Richmond BART. Rode BART to Del Norte El Cerrito station.

My son's car wasn't ready in Walnut Creek, so I changed directions and caught the 42 back to San Rafael.

In Richmond, a driver suddenly made a left turn from the right hand lane, directly in front of the bus.

The Bus driver's quick reaction saved our lives! It must have affected him, cause he missed bus exit in San Rafael.

I took the 80 back to Petaluma.

Section 3: Transit Connections

1. and 2. Very easy to make connections

3. Short wait except in San Rafael going back to Petaluma- Friday aft buses were late

4. Paid $6.90 Petaluma to East bay. Used transfers from 42-80

5. DID NOT have enough info in San Rafael. I went to talk to a person, not scan kiosks. I was confused.

Section 4: Transit hub or Main Transit Station

1.Lack of Seating. Lack of any humans- no ticket booth. Info Booth. There is a security booth with no one there. Peeling letters, vinyl curling of signs in the sun. Still useful.

2. Not as scary as BART station still plenty of people smelling like piss.

3. I figured it out thanks to a vendor.

4. **Liked the most:** I saw a couple without shoes, then a man without legs, and a man who had lost his mind and it made me think of Buddha- to write a modern day tale of Sidney Arthur Prince who takes the bus to make money and has a realization of the nature of things. **Liked the least:** Diesel fumes make me sick. Scary people scare me. Not crazy about waiting with crazy people, stinky people and scary people.

5. A security officer that also answers questions.

Name: Caroline Alemany

Travel Route: Take public transit to the San Jose Diridon Station, transfer, maybe more than once to arrive at the San Rafael Transit Center

Date of Travel: 9/29/05

Start Time: 9/28/05 (planning)

Section 1: Trip Planning

I wanted to a destination and purpose, so I went to the City of San Rafael website and clicked on the City's calendar. There was a farmer's market advertised and public transportation was prominently displayed. Eureka!

I would have liked to see pictures so that it would not be intimidating to see where it was that I was going.

I saw "Fourth Street", so I would shoot for that.

Ugh! 6pm? Forget it.

I went to Virtual Tourist and they say you pretty much need a vehicle.

Whole foods on 3rd street (#340).

Aztech (#802) and game escape on 4th.

Up A Street to 5th ave is mission.

Good thing I checked 511! 4 ½ hours!! For a trip that is supposed to take 1 hr 12 mins.

511.org was a blessing. I would have NEVER made it without it, or if I did make it, it would have been a horrible experience that I would not repeat.

Section 2: Travel

1. The Diridon walkway made me feel very vulnerable. It was a long walkway w/ a lot of cover for anyone wanting to lay in wait for me.

2. Train was clean and easy to board. Buses were anxious for me. Crowded. They were not marked clearly (i.e. "Santa Rosa" instead of "San Rafael") It was a little confusing/ anxious to map the 511 directions to the road, (i.e., "the WEST corner"

5. The message boards were where I looked for "next step" info (i.e., next train, which train, etc.)

Section 3: Transit Connections

The MUNI train was weird, because we don't have that kind of transit line in our area; but I caught it. I would be lost without the clear and consistent signs for each stop. They kept my anxiety level to a minimum. It also helped me to have a graphic of the line inside the transit so I didn't miss my transfer. I was only confused when translating from 511.org directions to the street to San Rafael; I had to catch the Golden Gate bus.

Section 4: Transit hub or Main Transit Station

San Rafael: After considerable research, I couldn't find anything attractive near the San Rafael station. It was late at night, so I took the trip back immediately. I wanted to go to the Farmers' market, but it took 2 hours to get there from SF. It was bigger than I expected.

Diridon: It felt safe. Even though there was a tunnel. It felt like there was a sufficient transit reps walking around for me to feel safe.

Diridon: It was clean, and I felt better because of it. However I did not feel safe coming from the parking lot until I got to the escalator.

Name: Harmony Corsi-Clark

Travel Route: From Corte Madera, take public transit to the San Rafael Transit Center (transfer to a different operator - boat or bus, maybe more than once) to arrive at SF Embarcadero. Take PUBLIC TRANSIT to your friend's house.

Date of Travel: 9/21/02 (?)

Start Time: 1:10 p.m.

Section 1: Trip Planning

1. and 2. I went online and Google searched "Marin, Public Transportation". I was led to the Golden Gate Transit website. On that site I saw an icon for "511 trip planning/ advising, so I clicked it. It allowed me to input my starting point and ending point and gave me multiple options for travel. It even showed me the schedules for each option. Sites- Golden Gate Trandot, 511, Larkspur Ferry

3. It took me maybe 20 minutes.

Section 2: Travel

1. My first bus was located a block or so away from my house. I got to the stop and 5 minutes later my bus arrived.

2. and 3. I didn't have exact change and thought I could get some on the bus, but that was not the case. Luckily another passenger had 5 ones to exchange for my $5.

4. I sat in the front seat by the window so I wouldn't get motion sickness (as it were, I sort of did, minorly though). The bus was clean and relatively empty. The trip lasted 35-40 minutes. At the San Rafael transit center I got off and transferred to my next bus. I only waited a minute for that to arrive. I took the second bus to the Larkspur Ferry Terminal. It took 6-7 minutes to get there. At the ferry I purchased my ticket ($6.50- but online the ticket price was stated as $5.80) and boarded about 5 minutes later. The ferry ride was peaceful and had beautiful views. I arrived in the City around 2.30 p.m.

Section 3: Transit Connections

1. It was extremely easy to make my transit connections.

2. It helped that I timed it so I wouldn't be waiting long at any connection

3. I used a transfer for the second bus. I paid full fare for the initial bus and for the ferry.

4. I had enough info and wasn't confused at any point. Change machines on the bus would be helpful though.

Section 4: Transit hub or Main Transit Station

1. I didn't notice any features other that the signs posted that showed where each bus # stopped.

2. It felt safe to be there, but it was broad daylight. I am not sure how I'd feel there alone at night.

4. There is nothing that stands out in my mind that was negative about the hub. I was merely passing through and was only there for a few minutes.

Name: Thomas Banks

Travel Route: Take Public transit from San Pablo to the San Rafael Transit Center transfer and go to anywhere in Fairfax.

Date of Travel: 10/26/

Start Time:

3:19 pm

Section 1: Trip Planning

3:19 I arrive at the Del Norte BART. 3:30, #40 arrives. 3.25, I inquire about bus schedule.

Section 2: Travel

1. Another passenger smokes as we waited for the #40 to Marin.

2. The driver was courteous and informative.

3. I noticed my crumpled dollars going in with ease.

Section 3: Transit Connections

Arrived at San Rafael hub @ 4:10. #23 to Fairfax arrived @ 4:19. Transfer was used to San Anselmo hub.

I was annoyed by the fact that I stated that I was doing a survey and still was given stupid info. The bus I boarded @ San Francisco was labeled 23 @ the San Anselmo hub. He changed to a 22. And had I not asked, I would have gone on to Sausalito.

Arrived in Fairfax @ 4:57. Got off and had a meal.

Section 4: Transit hub or Main Transit Station

Name: Phillip Ramirez

Travel Route:

Start in Tiburon, take public transit to San Rafael Transit Center, transfer and take public transit to anywhere in Vallejo.

Date of Travel:

9/29/05

Start Time:

10:05 am

Section 1: Trip Planning

Initially, got information for bus time from Golden Gate bus #923-2000. Take #15 from Tiburon to Strawberry Shopping Center. Take #70 or #80 to San Rafael hub (C. Paul Bettini Transit Center). Transfer to #40 or 342 to El Cerrito and connect to Vallejo Transit.

At El Cerrito Del Norte transfer to #80 Vallejo Transit and pay $2.25 more with GG transfer to Vallejo.

Runs every 15 minutes to El Cerrito, 30 minutes from El Cerrito Del Norte to Vallejo.

Took approx. 30 min to plan trip via phone call to GG Transit. Asked questions from drivers during route.

Section 2: Travel

2. First I acquired Golden Gate Bus/ Ferry Transit Guide, which was too much confusion so speaking to the driver proved to be the most helpful in destination routes.

No problem boarding the buses. Simply asked the driver for cost/ information re: transfers along route. Paid $4.80 @Tiburon.

3. Paid $4.80 at Tiburon start point with punched transfer to Strawberry to San Rafael to El Cerrito Del Norte to Vallejo. Each driver was very helpful with transfer information.

4. Paying/ transfers went smoothly with travel experience rather comfortable.

5. Tiburon to Strawberry transfer: 20 minutes, Strawberry to San Rafael hub: 30 minutes, San Rafael hub to El Cerrito: 45minutes, El Cerrito to Vallejo: 30 minutes.

Section 3: Transit Connections

1. If I had to rely on the GG transit guide, I'd be so lost—very confusing with too much information—easier to ask driver along route.

3. Additional fare of $2.25 from El Cerrito to Vallejo (discounted $1.50 with GG transfer). El Cerrito del Norte to Vallejo took 30 minutes. Return trip from Vallejo starts at York/ Maria downtown #80 to El Cerrito. Paid 3.75 to Vallejo transfer to Golden Gate. Transfer fare reduced by $1.50, normally $4.80, paid $3.30.

Section 4: Transit hub or Main Transit Station

1. The hub experience was not very bad—helpful person there (information center) gave direction for transfer, connections.

5. The least enjoyable part of the trip was having the feeling of being lost and needing to ask people for information on which platform to take which direction. Lots of activity. Intimidating! The hub seemed as efficiently planned as possible and helped my novice bus passenger experience be less eventful.

6. Hub experience was too hectic for me as a first timer, but it would probably become more routine if I took the bus daily.

Name: Laurette Garcia

Travel Route: Take NON BART public transit from your home on Fillmore to the SF/E Station. Transfer (maybe more than once) to arrive San Rafael.

Date of Travel: 9/22/05

Start Time:

4:00 p.m. from home. Took 4:55 Ferry to Larkspur. 5:30 bus to San Rafael.

Section 1: Trip Planning

1. and 2. At first I had no idea how to get to San Rafael by public transit. I asked my housemate and she suggested a ferry. Then I consulted trip planner on the internet. It gave me various options including a non stop bus, BART trains and a ferry/ bus combo.

3. It took me about 45 minutes to plan the entire trip.

Section 2: Travel

1. Waiting: I did not have to wait until I got to the Ferry Terminal at Embarcadero. I didn't mind waiting though because the Ferry Building was nearby and I was able to get coffee. Once on the ferry I waited about 5 minutes until it left.

2. Boarding: Bus: It was crowded and I did not find a place to sit. MUNI: Easy and no crowds. Boat: Great. I was surprised because I did not know I would be dealing with homeland security. Bus: No problems, I just walked up stairs.

3. Ticket: Bus/ MUNI: I have a fast pass so I just showed it. Boat: I bought a round trip ticket $12.90. There were no lines and it was easy. Bus: the driver told me that because I took the ferry I didn't need to pay.

4. Experience: The entire thing was really good. I especially like d the ferry because I sat outside most of the time and the view was nice. Inside the seats were comfortable. The bus was very comfortable as well. Riding through traffic was slightly annoying.

5. 22 Bus: 6 minutes. MUNI: 20 minutes. Ferry: 20-25 minutes. Bus (29)-

6. I had all the info I needed.

Section 3: Transit Connections

1. Making the connections was not at all difficult. Signs were prominent.

3. I waited about 10 minutes to catch the ferry and 5 minutes to catch the 29.

4. I did not pay an additional fare for the 29 to San Rafael.

5. I had plenty of info and was not confused. As soon as I left the ferry, I walked toward the parking lot. I immediately saw the BUS sign and it had all the info I needed about which bus to catch.

6. The only ting I was unsure about was which GG ferry terminal was for larkspur, the one on the left or the right. I asked an employee of the building and he pointed me to the right direction.

Section 4: Transit hub or Main Transit Station

1. There were two hubs I went to, the ferry building and the main San Rafael bus station. At the Ferry building I noticed the security the most. The bus station was just a huge outside where lots of buses came and went.

2. Both hubs were fine.

3. At the Ferry building I did not have enough info @ front because there were no signs that tell you which side is for larkspur. Or if there were signs, I did not see them. I ended up walking all the way to the wrong ferry at first.

4. I liked getting on the ferry but did not like waiting in lines. I didn't like the fact that the bus hub seemed intimidating. But I didn't have to transfer so it didn't matter.

5. More Signs!

Name: David Sequera

Travel Route: Take NON BART public transit from Daly City to SF/E. Transfer maybe more than once to arrive in Emeryville.

Date of Travel: 9/28/05

Start Time: 1:30 p.m.

Section 1: Trip Planning

1. and 2. I planned my trip by asking friends that I knew that took public transit daily. After gathering some information I planned out my route.

3. It took about one day to plan my trip.

Section 2: Travel

1. As I waited for transit, people were going about their business, moving from one end to another to catch a bus or get on BART. I really didn't have time to observe much because my bus came quickly.

2. Boarding the bus was pretty fun. It was a long, long time since I boarded a bus and old memories began to come back from when I took the bus to school. The MUNI train was a first for me. I have always wanted to take it but never had a reason to until today. It was a lot cleaner than I expected. But the ride was surprisingly "jerky". During the MUNI train ride, the train stopped abruptly and a passenger bumped their head on a pole. She looked fine but she pressed the driver to call an ambulance and everyone had to get off to catch another train. We waited for half an hour then got another MUNI train that dropped me off at Embarcadero. From there I took BART to Macarthur Station, very uneventful. From Macarthur I took the shuttle that led passengers to Emeryville as no cost. The shuttle was called "Emery-Go-Round".

3. Buying BART tickets surprised me because fares seem higher than what I expected and I was able to use a transfer to get on a MUNI train.

4. Pretty fun Experience!

5. The different section of my trip ran smoothly except for when I took the MUNI train. That took the longest.

6. I pretty much had all the info I needed but what I forgot to get information for was the time MUNI ran.

Section 3: Transit Connections

1. I found it very easy to make my connections. As soon as I got off one transit the other was only nearby.

2. The only time I really had to wait was when the MUNI train got into that problem with that passenger. Other than that the longest I waited at each stop was no more than 10 minutes.

3. The only additional fare I paid was on BART. Other than that I used a transfer.

4. No. I didn't have a direct destination of where I had to stop. I just got to the City and came back home.

5. No. I was not confused at any point.

Section 4: Transit hub or Main Transit Station

1. The feature I noticed first was the gloominess. Although I really didn't have the time to notice much the lack of light was all I remembered.

2. Nope.

3. It felt weird because it was the first time I got off the MUNI train and as soon as I got my BART ticket, my train at Macarthur had arrived.

4. Somewhat. I still didn't know where in Emeryville I was to go. But I found it fun not knowing.

5. I liked how everything was there for me. Meaning any info I need to check I found it next to where I purchased my ticket.

6. Not sure.

Name: Ruth Hughes

Travel Route: From the Sunset neighborhood in SF (home) take NON BART public transit to SF Embarcadero Station. Transfer, and go to downtown Berkeley.

Date of Travel: 9/22/05

Start Time: 9 :15am

Section 1: Trip Planning

I thought about how to fulfill the needs of the study and design and interesting travel plan. I chose to take the MUNI (N Judah) train from my home to the Embarcadero BART station and walk half a block to the Ferry Building and take a ferry from San Francisco to Berkeley or Oakland, transfer to a bus in Berkeley/Oakland to downtown Berkeley and return to San Francisco by AC Transit Transbay F bus, ending my trip by taking a MUNI bus to my home.

I searched the internet first, I went to eastbayferry.com looking for a ferry to Berkeley. Twenty minutes later I realized the ferry does not go to Berkeley, but does go to Oakland/Alameda.

Section 2: Travel

9 :15am I walked 5 minutes, north on 34th Avenue from my home to Noriega and Judah where i caught the N Judah to the Embarcadero Hub. The train arrived at Embarcadero at 10 :00am. I stopped to have my picture taken and proceeded to the escalator to Market Street. From there I walked to the Ferry building.

10 :05am I arrived at the Ferry Building, and stopped at the Sausalito / Tiburon ticket booth, where I asked for directions to Pier E where the Oakland / Alameda ferry departs. The posted schedule on a kiosk in front of Pier E shows the departure at 10am. There was not one other individual at the pier. Thinking I had missed the 10am departure, I decided to find an alternate departure site. The posted schedule directed me to Pier 41. I returned to the Sausalito / Tiburon ticket booth. The individual working there was very cordial but not sure about how other ferry systems work because they are different companies. She did give me accurate information about how i could take a trolly to Pier 41 for the Oakland / Alameda ferry, which stopped directly in front of the ferry building traveling north to Pier 41, a mile up the road.

Remarkable about that short trip was that I needed to ask the conductor about how to get a seat as a senior. A 5 year old boy and 7 year old girl occupied the senior seats, The rear of the trolly had a least ten empty seats. The children's parent immediately scooted the children off the seat once I aked, 'What are the consequences of not adhering to the federally posted law about relinquishing seats to seniors ?' The driver was courteous and responsive once I made a point about wanting to sit. He also said, because I do not look like a senior, that I need to show ID when boarding to ask for a seat. He went on to say that most people do not read the signs.

10 :30am I arrived at Pier 41. The posted schedule at Pier E listed departure at 11 :00am.

12noon It was on time. It did return to Pier E where it took on six passengers. The trip to Oakland is work any inconvenience of wrong schedule or back tracking. The weather, 72 degrees, sunny, clear blue ski, 10-15 mph winds. The ride was pleasant and seating was abundant.

1:00pm I arrived at Oakland Embarcadero Pier after a brief stop (less than 5 minutes) in Alameda. At the Oakland Embarcadero Pier, there were no directions given about transportation for connecting transit to Berkeley. Travelers need to ask for directions. I asked the ticket taker on the ferry who said, when I got off the ferry I should turn right off the ferry, walk two blocks to Broadway and Embarcadero where I could catch a bus to downtown Oakland.

1 :15pm I arrived at Embarcadero and Broadway, waited 15 minutes, a bus arrived and I rode to 12th and Broadway where I waited for the transfer for a bus to downtown Berkeley.

1 :30-1 :45 I waited for a bus to downtown Berkeley. The trip from 12th and Broadway to Berkeley was the longest, most arduous part of the trip. I arrived in Berkeley at 3:00pm.

3:00pm-4 :15pm Lunch

4 :20pm I departed on ACTransit F. I arrived at the Transbay Bus Terminal at 5 :20pm, walked back to the Embarcadero hub and took the MUNI 71L 34th Ave and Noriega in the Sunset District. I arrived home at 6 :00pm.

Section 3: Transit Connections

- Difficult connections? Yes- the ferry, having a human available to provide info or at least an up to date schedule. I had to wait two hours from MUNI-Ferry
- Fares: N Judah – 50cents, Ferry $3.25 they gave transfer to local ACTransit. Return F-$1.75, MUNI 50cents.
- All the connections were easy. The longest wait for a bus or train was 10 minutes.

Section 4: Transit hub or Main Transit Station

- Embarcadero was clean and organized.
- All drivers and agents were courteous and tried to be helpful.
- Drivers and agents were not familiar with other transit services. Other riders filled in and gave info when needed.
- Lack of adherence to senior seating everywhere except the Ferry.

Appendices Part C – Improving Customer Use of Transit Information

San Francisco October 26, 2005

PARTICIPANTS San Francisco - Wednesday, October 26, 2005					
#	City	Gender	Age	Race	Frequency of Transit Use
1	San Francisco	M	18-35	White	Reg
2	San Francisco	M	18-35	African American	Reg
3	San Francisco	M	35-45	Asian	Infreq
4	San Francisco	M	55+	Chinese	Reg
5	San Francisco	F	18-35	Mixed - White/ Latino	Reg
6	San Francisco	M	35-45	Asian	Reg
7	San Francisco	M	35-45	Latino	Reg
8	San Francisco	F	18-35	Latino	Infreq
9	San Francisco	M	18-35	White	Reg
10	San Francisco	F	18-35	African American	Reg
11	San Francisco	F	35-45	White	Reg
12	Daly City	M	18-35	Latino	Reg
13	San Francisco	M	18-35	White	Infreq
14	San Francisco	F	35-45	White	Infreq
15	San Francisco	F	46-55	black	Infreq

Section 1 Introduction

1) How often do you take public transit in the Bay Area?

- Three times a week
- At least twice daily (to and from work)
- Every day 3 to 4 times
- 6 days a week
- About twice a week
- Almost every day
- Daily
- Rarely

- 2-3 times a month
- A few times a week
- 10-25 times monthly. Depends on when I need it.
- Approximately 1-2 times a month.
- Every weekday, some weekends
- Twice per month.
- At least once – twice a week.

2) Are you more likely to use public transit during the week, weekend or both?

- Both depending on time and finances
- More likely during the week, but usually both.
- Both x 6
- Weekend x 4
- During the week x 3

3) What is the typical purpose of your trip when you use public transit? Please check one.

Purpose	Count
Travel to / from work	8
Travel to / from school	1
Business travel	4
Visit family or friends	4
Shopping / errands	8
Leisure/recreation	8
Other: Large events (fireworks, street festivals, parades, etc.)	1

4) What types of transit or operators do you use? (Name all that apply)

- MUNI – bus or trains; BART – faster, but only runs from Mission
- I primarily use the MUNI, while sometimes frequenting the BART.
- BART, MUNI x 8
- MUNI, BART, cable car (bus and train)
- Light rail / MUNI / F.
- MUNI, BART, AC Transit
- BART
- MUNI, BART, Samtrams

5) Assume you had to take public transit to an unfamiliar location. Where would you go for information and how would you go about planning your trip?

- Google BART or MUNI SF

- I would look for an SF MUNI.com and use the trip planner.
- SF MUNI website, BART website, maps/Yahoo
- 511 trip planner
- 511.org and maps
- Call MUNI operator and ask for line and directions, and use 511 for time of arrival.
- Website of the operator or the map at the terminal
- Internet or call
- Their website
- 673-MUNI or transit 511.org
- Depending on what public transit I take, I use their planner online to scope it out.
- The web, friends, station
- Transitinfo.com
- Internet x2

6) How important is 24-hour access to transit information for you. Please rate on a scale of 1-5 (1=Not Important and 5=Very Important).

Rating	Count
1	0
2	1
3	0
4	3
5	11

Comments: Very important for the weekends, for people overcrowding the city

7) If 24 hour access is important to you, please check which method you prefer:

Method	Count
Web	10
Phone	5

Note: One respondent checked both methods; one respondent checked neither.

8) When you are ***away from the station or transit hub,*** please identify the information you need and choose a letter that matches the source of that information.

Information	A-Web access from home or work	B- Web access through pda or cell phone	C- Phone- recorded message	D- Phone- live operator	E- Printed map or schedule	F-Ask a friend or colleague who uses transit regularly	G-Other-please describe:
Schedules	8	1	0	4	3	0	0
Identify which bus/ train to take	5	0	0	5	6	0	0
Location to board transit	4	0	0	3	6	1	1 - Ask bus driver
Location to make transfer	5	0	1	4	6	0	1 - Ask bus driver
Real-time arrival predictions	6	1	2	3	2	1	0
Fares	6	0	1	1	4	2	0
Other:	0	0	0	1	1	1	0

Note that some respondents marked more than one source for each type of information. Also, when respondents selected "other" they didn't always describe what that referred to.

9) When you are ***at** the station or transit hub,* how do you prefer to get your transit information? (Please check all that apply.)

Transit Information	Count
Signage and maps posted in station	14
Information kiosks	13
Agency display cases	4
Ask an operator (or person in uniform)	11
Ask other riders	7
Web via cell or pda	0
Phone (cell or pay phone)	0
Announcements made by station agents	12
Other: please describe	0

10) Are you currently able to get transit information when you need it? If yes, how do you get your information?

- Yes, via internet
- I don't need it very often, but when I do, it's SFMuni.com and then Nextbus.com.

- Usually by phone
- Yes – online or at the station
- Yes – web and printed maps; no - MUNI real-time arrival predictions
- Call MUNI operator or 511
- Yes, generally I call the agency (i.e. BART or MUNI)
- Internet
- Via telephone or web
- Web and/or printed map/schedule
- Yes, on the web, as printed schedules
- Transitinfo.com, ask bus drivers, look at MUNI maps at bus shelters
- Yes, on the web.
- By brochures or internet.

11) In general, how important is it to be able to get information about travel alternatives or options such as different modes of travel or other transit operators?

- Somewhat
- Not. I don't need much else than MUNI.
- Very important x6
- Very important – traffic congestion and environmental concerns make us need alternatives
- Very important. Not always aware of alternative methods.
- Would be nice.
- Important
- I mostly use MUNI and BART only within SF so I don't really need other info.
- Moderate importance. Will reconsider using car depending on access and ease of use.
- Very important, since lots of times traffic makes it harder for arrivals and use of privately owned vehicles.

12) Are you familiar with or have you heard of

	Yes	No
511 (phone)	13	2
511.org (web)	12	3

13) Have you ever used the phone number, 511? If yes, please provide 2-3 words describing your experience.

- Time of arrival was accurate, but voice recognition was hard to understand me.
- Somewhat useful, not a lot of detail
- No, but I've called MUNI directly

14) Have you ever used the websites, 511.org or transit.511.org? If yes, please provide 2-3 words describing your experience.

- Easy, simply laid out
- Quick, helpful, efficient
- Great, bike routes
- Not used website, but used 511 on cell phone.
- Yes, to order Fastrack.
- Very good experience, intuitive path
- Kind of inaccurate in relation to bus stops that are in walking distance.
- Very good.
- Useful for predicting bridge traffic but not always up to date – hard to navigate to region outside immediate Bay Area (i.e., Tahoe).
- Informative, (slightly) cumbersome

Section 2 Signage

1) On a scale of 1-5, how helpful is the signage at the station you use most frequently?

Rating	Count	Stations Named
1	2	9th & Market, Chestnut, Webster
2	2	Civic Center, 16th & Mission
3	2	Powell, Embarcadero
4	5	24th Street, Embarcadero, Van Ness, Glen Park, MacArthur, Rockridge, 12th Street, Montgomery
5	4	Daly City, Montgomery, Powell, Embarcadero, Civic Center

2) Please rate the adequacy of the following types of signs you find at the station you use most frequently. H = more than adequate, M= adequate and Low = inadequate.

Type of Sign Encountered	Count and Stations Named		
	H	M	L
Signs identifying the station and transit operators	4 24th & Mission, Powell, Embarcadero, Daly City	5 Civic Center, Embarcadero, Glen Park, MacArthur, Rockridge, Montgomery, 16th & Mission	4 Daly City, Montgomery, Powell, Embarcadero, Chestnut/Webster MUNI
Directional signage for moving around or entering and exiting the station	0	11 24th & Mission, Powell, Embarcadero, Civic Center, Daly City, Montgomery, Glen Park, MacArthur, Rockridge	3 Civic Center, Chestnut/Webster MUNI, Embarcadero, Powell, 16th & Mission
Signs that identify where to board or wait for transit	3 24th & Mission, Embarcadero, Powell, Daly City	8 Powell, Embarcadero, Civic Center, Daly City, Montgomery, Glen Park, MacArthur, Rockridge, 16th & Mission	3 Civic Center, Embarcadero, Chestnut/Webster MUNI
Signs that identify when your next train/bus is arriving	6 24th & Mission, Powell, Embarcadero, Daly City, Montgomery, Civic Center	5 Civic Center, Embarcadero, Glen Park, MacArthur, Rockridge, 16th & Mission, Daly City	3 Civic Center, Chestnut/Webster MUNI, Montgomery
Others:	0	0	1 Chestnut/Webster MUNI

Comment re. "Others:" There are no signs.

3) Do you think it is important that signs are consistent (look similar) between different transit agencies?

Yes	No
11	4

Note that one respondent marked both yes and no.

4) Please tell us why you answered as you did.

- Yes, important, so you're not looking around for the same info but from an unfamiliar sign.

- Yes, uniformity causes easier use.
- Yes, you may have a need to get off the next stop. It's always good to have some familiarity in your travels.
- Yes, it makes it more comfortable to easily discern where I am on a map or where I need to go when I am already familiar with the set-up.
- Yes, easier to find and process information that is consistent at different stations / saves time.
- No, you need to distinguish each different transit.
- Yes, efficiency.
- Yes, quicker to find information if it is presented consistently. Know how to look it up easier.
- Yes, if I am in an unfamiliar area, I want consistency.
- No, I usually find what I'm looking for. I have used public transit for many years.
- Yes, makes it easier to negotiate different transit systems.
- No, I like to have some way to know immediately what transit system I am looking at. They should not be identical.
- Yes and no. For ease of travel, it would be nice is signs were consistent. But each system's signage identifies and reminds you of the system you are on.
- Yes, better ease of use – intuitive.
- Yes, without signs there will always be the necessity of asking others.

5) The facilitator will show you a board displaying transit information. In response to the board:

5a) What do you like about the first display?

- I like the key, laid out route clearly
- It's colorful.
- It reminds me of an NYC subway. I like the color differences (map color coding).
- The schedule/times are always helpful. The map indicates the route.
- It incorporates various transit agencies.
- Landmarks / colors – would be good if you had printed versions to plan trip prior to getting to station
- Shows path routes.
- Good micro/macro perspective
- Shows the general area. Colors vary per agency (color coding). Landmarks.
- Gives a global view along with a micro view
- Color coding
- It's good – staring point from in this case Palo Alto station and how the transit system works.
- Colorful, detailed, comprehensive, easy to use, list 511 info, landmarks
- Local area map always helpful at destination.
- Shows travel options available – might be inclined to take alternative transportation.

- Colors, legend.

5b) What do you dislike about the first display?

- Maybe too much border but otherwise ok
- It's a little busy.
- Nothing in particular.
- Needs colors to differentiate the times.
- Too confusing.
- Overwhelming amount of information – didn't know where to start
- Not clear on line and transit numbers.
- Good micro/macro perspective but it's missing the in-between.
- Can seem a little overwhelming.
- Global view is a little busy.
- Kind of confusing look like an NYC map in relation to size.
- Why downtown San Jose and not SF? Regional map not detailed enough to be useful. No indication as to which is the slow route, fast route.
- I want to see all options in each picture (Caltrain, MUNI, BART), not individually.
- I think graphics can be better, I think it needs transfer information.

5c) Is the information helpful or complete? If not, what information is needed?

- Yes, I feel like if you're able to read maps it's ok
- Simplify it.
- Make clearer the times available on weekends as well as weekdays and holidays.
- More complete, but less useable. There is almost too much information displayed.
- I would place the maps in different locations within the station with signage directing people to regional map, etc.
- Not complete, stops need to be more visible
- Yes, but no. More local area detail
- Distance marker – 1 mile
- Helpful
- Yes – doesn't show how to get to some popular places (City Hall, for instance).
- Want to know how they overlap in detail.
- Times, schedules, transfer points.

6) The facilitator will show you a board displaying transit information. In response to the board:

6a) What do you like about the second display?

- Laid out/spaced out cleanly and clearly
- The schedule/times are always helpful. The map indicates the route.
- More concise and I like the map of the station routes.
- Schemata of station, destinations (i.e. Stanford Shopping Center), arrival times/estimates
- Tells times and destination
- Bus scheduled times and routes
- Location of boarding areas
- Landmarks for position inside/outside of station
- Time increment, color coding
- Time schedule
- Schedule detail
- I like to have a schedule with exact times or accurate estimates.
- Seems easy to use and gives reference to popular destinations like the large picture for Caltrain bus stops.
- It's smaller, less operators to worry about or scramble to figure out times.

6b) What do you dislike about the second display?

- Obviously could be bigger and a complete grid, i.e. no spaces
- Not visually simple.
- Too many words and too many lines
- Nothing particular
- Not enough information, not easy to read
- Reconciling different modes of transportation / connections would take some study.
- No exact time of arrival.
- Needs colors to differentiate the times.
- It needs to be displayed in actual size for people to experience it.
- Not intuitive, boring, map is confusing, I like to see a timeline (5:30, 6:30) not intervals.
- The big grid of time increments – think it could be simplified to i.e. every 15 minutes
- Colors to makes a difference.

6c) Is the information helpful or complete? If not, what information is needed?

- The information is both helpful / complete
- Seems complete.
- Lines on the schedule would be helpful.

- Very helpful.
- Need to shade lines in the table
- Helpful.
- Make clearer the times available on weekends as well as weekdays and holidays.
- Time schedules are always good.
- No – doesn't give you actual times – just intervals between buses/trains.
- It seems complete.

Section 3 RealTime Information

1) Do you use or encounter RealTime information during any part of your trip? (Check all that apply.)

Type of RealTime Encountered	**Count**
Electronic displays at train stations or bus stops	15
Web site accessed at home/work or via pda	3
Call 511 on phone	2
Call transit agencies by phone	1
Updates provided by TV or radio during commute hours	4
Others:	1

Others: station announcements, kiosk display on buses.

2) Please rate on a scale of 1-5 how helpful you find RealTime information. (1=Not Helpful, 5=Very Helpful)

Rating	**Count**
1	0
2	1
3	3
4	3
5	8

3) If you find RealTime information helpful, please tell us how it is helpful to you.

- It's great having a schedule but rush hour is quite different.
- Next bus saves me time during non-peak hours. Less wait.
- To know that I will arrive on time and know when departure is.
- Helps plan your trip better.
- Next bus – is not accurate, consistently. BART real time is accurate. MUNI at station is somewhat accurate.
- This way you can prepare to the minute your time of arrival and train.
- Knowing when buses/trains arrive or how to connect to another train/bus. Report any delays
- Gives you a sense of how long you will be standing there. I can make a call if I know I will have enough time.
- It adds to my punctuality.
- Because you know exactly when it will arrive.

- Well…it gives me the info I need about how long I'll be waiting. I can then decide if I want to take that system or another.
- For BART it's accurate.
- It helps know when you will leave. It helps avoid certain areas.

4) RealTime information can be provided in several ways. Please rate your preference for receiving Real Time information: (1= least preferred and 5 = most preferred)

Type of RealTime Info	Count per Rating					
	1	2	3	4	5	✓ instead of rating
Electronic displays at train stations or bus stops	1	1	0	0	11	2
Web site accessed at home/work or via pda	3	0	4	3	2	1
Phone	1	2	5	1	4	0
Updates provide by TV and radio during commute hours	5	1	4	1	1	0
Station announcements	0	1	3	4	5	1
Other: please describe	0	0	0	0	0	0

Comment: Station announcements helpful only if you can understand it.

Note: "Electronic displays" received two check marks without a rating, "web site" received one check mark without a rating, and "station announcements" received one check mark without a rating. Also, not all respondents used all five rating numbers.

5) Where should Real Time services that are provided by electronic display be located to be most helpful to you?

- Both outside the station and at the platform.
- Where they already are.
- When you enter a station or in the bus shelter.
- Above MUNI and BART train platforms.
- Above the platforms; on entrance ways/stalls
- On platform
- All throughout the station
- At entrance so you can make a decision to proceed or not, and at platform.
- As you walk into station and on platforms.
- Near the operator, exit or posted by the advertisements.

- Electronic displays specific to transit systems like BART are different then MUNI, CAL trains
- Where you board the train and right when you get into the station.
- Before you go down to a particular operator's platform – i.e., at street level in the station so you could make an informed choice between BART and MUNI.
- At the platform.
- Billboards, screens, public announcements.

6) If RealTime information includes multiple agencies are listed, how should the information be organized? Do you want to see arrival predictions sorted by agency or by the next vehicle approaching? Other ideas?

- By location, i.e. in SF MUNI should be first, Oakland should have BART first, etc.
- Either or. Though the current (next arriving) seems to be helpful.
- Alphabetically.
- An individual sign per agency, and then arrival predictions by incoming vehicle of said agency.
- By next vehicle approaching and different colors
- By next vehicle
- By agency. Show delays or problems with connections, agencies or routes affected by events.
- Sorted by agency x2
- Electronic display of various public transit systems.
- By next vehicle approaching.
- By color on the same map. Both – next vehicle by color.
- By agency in order.

Section 4 Transit Signage- Existing

1) On a scale of 1-5, how easy is it to find your way from/to your transit connections at the hub or station you use most frequently? (1=Very Difficult, 5=Very Easy)

Rating	Count
1	0
2	1
3	3
4	3
5	8

2) Are there enough signs to help get you to your connecting service or destination?

Yes	No
8	5

Comments:

- Enough signs but they need to be clearer.
- No – depends on what I'm connecting service

Note that not all respondents answered this question.

3) If no, where should they be located?

- They could be more prominent
- More signs for MUNI
- On all levels and entrances
- Entrances, etc.
- Mostly it's bus stops that are confusing. BART/MUNI-metro signs are adequate.

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	*Not acceptable*	*Preferred*
A1	▪ Dingy ▪ Not bad ▪ Not very identifiable ▪ Dull, unidentified ▪ Fine ▪ Not clear ▪ Cluttered – not sure what I'm looking at ▪ Looks like liquor store ▪ Not very clear ▪ Looks like a cappuccino stand. ▪ Looks barren ▪ Ugh, ugly, where's the info? ▪ Sign is old-fashioned ▪ Don't know it's a transit hub. ▪ Needs different colors.	▪ Like it – THE SIGN ▪ Little easier to read. ▪ The lettering on top is helpful, but could use some sp ▪ Title of transit center improves visibility and therefor ▪ Better ▪ ID is easy to see ▪ Better but not enough on street level ▪ Clearer what the building is. Needs more signage. ▪ Much better – clearly marked ▪ Obvious ▪ Transit center ▪ Better – not visible from street. ▪ "Transit Center" not an inspiring term. ▪ Better, but would add symbols for all modes available available. ▪ More recognizable	9	2	3
A2	▪ The standard ▪ No impression ▪ You only know that it's an entrance to sub-trans ▪ Fine ▪ Not many descriptions ▪ No sign ▪ Okay but nothing great ▪ Sign not very readable. ▪ What I am used to ▪ I usually know because of prior years riding ▪ Looks normal ▪ Hard to see – not big enough. ▪ No sign ▪ Going to MUNI/BART ▪ Needs signals	▪ Much better ▪ Better ▪ MUNI sign should refer to underground but sign is h can be seen from afar. ▪ Adds info/visibility. ▪ Better, big signs ▪ More distinguishable ▪ Better (color simplicity) ▪ Somewhat better. Definitely clearer. ▪ Helpful but needs arrows. ▪ Combo sign ▪ Better – easily identified. ▪ Very informative! ▪ Better for tourists. ▪ Better, for tourist, transfer	5	1	7
			Note: One respondent commented on but did not rate this slide.		

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	*Not acceptable*	*Preferred*
B1	▪ Looks ok ▪ No impression ▪ Not visible (signs) ▪ Ok as an exit. ▪ What do I do? ▪ No direction of line – sign not seen ▪ Vague – not very good ▪ Directions are not clear – too small. ▪ What I am used to ▪ Very vague. ▪ Sparse ▪ No info ▪ Easy to get out and in. ▪ Needs signs	▪ Considerably more informative ▪ Much better ▪ Very bright obvious signs. Definitely preferred. ▪ Much better – color codes, helpful, directional ▪ Bright with arrows / busy ▪ Easy to see different line ▪ A little cluttered but better ▪ Color is more visible but still a little confusing ▪ Significantly better. Very good. ▪ Yellow good. ▪ Very noticeable ▪ Much better ▪ Great – shows alternatives that I wasn't aware of. ▪ More visible.	5 Note: One respondent commented on but did not rate this slide; one respondent neither rated nor commented on it.	0	7
B3	▪ Standard simple ▪ No impression ▪ Old – antiquated ▪ Plain, looks antiquated ▪ Wheelchair accessible ▪ No directions ▪ Confusing ▪ Too small ▪ Bare bones ▪ Confusing ▪ Sparse ▪ Terrible ▪ But what's at tracks? Where does it go? ▪ Needs more light	▪ Clear compact high bright ▪ Much better - the digital sign. ▪ Lots of info, more organized. Scale of 1-10 – "20." ▪ More modern ▪ To San Francisco ▪ More info & easy to read ▪ Like the real time info. Disabled sign takes up space. ▪ Sign is larger, illuminated, direction (to SF) ▪ Clearly marked. Destination is clear. ▪ Very directional and accurate. ▪ Illuminating ▪ Much better – clearer. ▪ Answers previous questions. Easy to read. ▪ More information	5 Note: One respondent commented on but did not rate this slide; one respondent neither rated nor commented on it.	0	7

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	*Not acceptable*	*Preferred*
B6	▪ Clean I like it ▪ No particular impression ▪ OK ▪ Generic sign ▪ Adequate ▪ Ok ▪ Sufficient ▪ It works for me ▪	▪ Not necessary ▪ So-so ▪ Visually more appealing. A better improvement. ▪ Slight improvement ▪ Better for learning disabled / foreigners ▪ More easy to read logo. ▪ Better ▪ Signs are recognizable ▪ Marginally better ▪ Not much better ▪ No better. ▪ Better graphics, colors	6 Note: One respondent commented on but did not rate this slide; one respondent neither rated nor commented on it.	3	2
B7	▪ I like the original ▪ Normal ▪ Doesn't stand out particularly ▪ Ok; a little dark ▪ Familiar ▪ Generic ▪ Not enough ▪ Little unclear ▪ Not helpful ▪ Dreary ▪ Sparse ▪ OK ▪ Hard to distinguish between information. ▪ It works	▪ Like it equally with the first – eye catching ▪ Much better – improvement ▪ More info, colorful. Amtrak is missing. Like it much ▪ Much better; clear, distinct, yellow → directions. ▪ Like the # of blocks ▪ More info & color ▪ Gaudy but has more info ▪ Color is distinctive, more clear, avoid a "Las Vegas" l ▪ Much better, draws more attention to it ▪ Simplistic and yellow is a plus. ▪ Illuminating ▪ Much better, clean, colorful ▪ Like the use of symbols. Looks modern, can easily di between modes & variety of transportation. ▪ More colors, better graphics	3 Note: One respondent commented on but did not rate this slide; one respondent neither rated nor commented on it; one respondent voted "neutral."	1	7

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	Not acceptable	Preferred
C1	▪ Not good ▪ No impression ▪ Info is very bleak, not as obvious ▪ Not great definition of current platform ▪ Numbers are confusing ▪ No direction ▪ Horrible ▪ Signage too small ▪ Confusing to inexperienced rider ▪ Looks like a parking lot at airport. ▪ Sparse ▪ Confusing ▪ Vague info. Guessing numbers are the bus lines ▪ It needs improvement, better signs.	▪ Very good, more clear ▪ Confusing ▪ Separates the routes. I like it overhead, but info is sti clearer directions. ▪ Much clearer as to what direction is needed, but need ▪ Misleading ▪ More easy to read and bright ▪ Good info – confusing ▪ Much better color, overhead signage, illuminating pla ▪ Slight improvement – don't know I'm on Platform " ▪ Confusing ▪ Illuminating ▪ Needs to say Platform B ▪ More consistent in the way you'd find at train station ▪ More directions	3 Note: One respondent commented on but did not rate this slide; one respondent neither rated nor commented on it.	7	2
C2	▪ Not clearly marked ▪ No impression ▪ Signs are not obvious for shuttle ▪ OK ▪ Not sure what the bus is ▪ No directions ▪ Not readable ▪ Lack of signs ▪ Not clear ▪ Nowhere land… ▪ Sparse ▪ Very confusing – no signs ▪ There's a lot of different bus times. ▪ Bigger sign needed	▪ Prominent, much better ▪ Better ▪ Great large sign. Free shuttle sign – very large. ▪ Much clearer color, scheme of bus & nice size. ▪ Like "free" – like dash w/out red swish ▪ Easy to read direction ▪ Catches the eye ▪ Confusing. Sign = nice & large. Must be visible fro ▪ Very clear, can see from distance. ▪ Free shuttle is good. ▪ Illuminating ▪ Much better ▪ Love symbols and color consistency and lack of clutt ▪ Big improvement, more info.	6 Note: One respondent commented on but did not rate this slide; one respondent neither rated nor commented on it.	0	6

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	Not acceptable	Preferred
D1	▪ Too small ▪ No impression ▪ Not very visually appealing, too much info. ▪ Poor ▪ Never have used this display ▪ Too confusing ▪ Too cluttered ▪ Too much info, too small ▪ What I am used to ▪ Very dated ▪ Sparse ▪ Small, cheesy ▪ It works.	▪ Easier to read ▪ I enjoy the map as well as scale. My favorite. ▪ Large scale info. Good boarding info. ▪ Much better; clean, concise, separated ▪ Easy! ▪ Easy to read ▪ More graphically easy to read – lets you know where ▪ Easier to read. Scale. Orient yourself within walking key operator boarding spots. ▪ Better – gives a sense of scale. ▪ Easy to translate ▪ Illuminating ▪ Better, easy to read ▪ Want more info on route of buses available. Easier to distinguish information. ▪ It's better, easy to read.	5 Note: Two respondents commented on but did not rate this slide; one respondent neither rated nor commented on it.	0	6
E1	▪ Prefer this one ▪ No impression ▪ Interesting look for a panel. Lots more info. ▪ Very good ▪ Like this – can see where you're at ▪ Boring ▪ This actually is good, it just needs the actual tim ▪ Too small. Like the information ▪ Very nice ▪ Modern ▪ Sparse ▪ Amateurish – very limited ▪ Can't tell right away it's a BART map. Hard to map. ▪ It's ok, it's really good	▪ Don't really like it ▪ I don't like the alternative as much ▪ Not different than what we already have. Like more ▪ More concise as there is only 1 train from the station. ▪ Redundant / incomplete information ▪ Easy to see but need direction map ▪ Too simplified – would want this with the other sign ▪ Clear – large ▪ Not an improvement on first slide. Only gives inforn train. ▪ I like #1. ▪ Very definitive, informative. ▪ Not as much info ▪ Ok. Would like to see all transportation by color, i.e. line with description and time. ▪ It is a bigger worded sign.	1 Note: One respondent commented on but did not rate this slide; one respondent neither rated not commented on it.	10	1

Appendices Part C - Improving Customer Use of Transit Information

East Bay, Oakland November 1, 2005

PARTICIPANTS East Bay - Tuesday, November 1, 2005					
#	City	Gender	Age	Race	Frequency of Transit Use
1	Oakland	F	18-35	Chinese	Infreq
2	Oakland	M	18-35	Asian	Reg
3	Oakland	F	18-35	Korean	Infreq
4	Richmond	M	55+	White	Infreq
5	Oakland	F	36-54	White	Reg
6	Oakland	M	35-45	Asian	Reg
7	Oakland	M	55+	African American	Reg
8	San Leandro	F	18-35	African American	Reg
9	Oakland	F	35-45	Asian	Reg
10	Oakland	M	18-35	Latino	Infreq
11	Alameda	F	46-55	Asian	Reg
12	Oakland	F	18-35	Latino	Reg
13	Alameda	M	35-46	White	Infreq
14	Oakland	F	18-35	African American	Infreq

Section 1 Transit Information

General comment: Please make BART 24 hours even if it is only 24th through MacArthur every 30 minutes! Thanks!

1) How often do you take public transit in the Bay Area?

- 2-3 times per month x2
- 2-3 times per week.
- 5 days a week x2
- At least 14 times a week.
- I take public transit 3-4 times a week.
- 6 times a week
- One to two times per week
- Once or twice a month.
- At least 5 days a week and sometimes more
- 7 days a week.
- 4-7 times a day.

2) Are you more likely to use public transit during the week, weekend or both?

- During the week x7
- Both x5

3) What is the typical purpose of your trip when you use public transit? Please check one.

Purpose	Count
Travel to / from work	8
Travel to / from school	1
Business travel	3
Visit family or friends	2
Shopping / errands	2
Leisure/recreation	3
Other: please describe:	0

4) What types of transit or operators do you use? (Name all that apply)

- BART, AC Transit x4
- BART, VTA
- BART
- BART, Bus, AC Transit
- BART, MUNI x2
- BART, AC bus, wheels
- I use BART and sometimes AC Transit.
- AC Transit, BART, MUNI, Caltrain, VTA, County Connection, Samtrans
- BART, AC Transit, VTA (bus), MUNI (bus and rail).

5) Assume you had to take public transit to an unfamiliar location. Where would you go for information and how would you go about planning your trip?

- Likely to try the transit sites on the internet first. Would check stations, times and fares.
- Internet
- Internet / homeweb site
- 2 websites of public transit and check maps
- Internet. I would get as much information as possible before heading to the destination.
- 1 hour (??)
- I would look at the BART schedules or the internet.
- 511, 511.org, 673-MUNI
- 511.org, Google search for the right transit authority.
- Either AC Transit or BART's website, depending on the trip location or access.
- 511 and ask the operator of whatever agency I needed in that particular city.
- BART website, or just go and use maps and information provided at BART stations and AC Transit stops.
- 511.org

6) How important is 24-hour access to transit information for you. Please rate on a scale of 1-5 (1=Not Important and 5=Very Important).

Rating	Count
1	0
2	0
3	2
4	2
5	9

7) If 24 hour access is important to you, please check which method you prefer:

Method	Count
Web	8
Phone	4

8) When you are *away from the station or transit hub,* please identify the information you need and choose a letter that matches the source of that information.

Note that some respondents marked more than one source for each type of information.

9) When you are *at the station or transit hub*, how do you prefer to get your transit information? (Please check all that apply.)

Transit Information	Count
Signage and maps posted in station	11
Information kiosks	8
Agency display cases	2
Ask an operator (or person in uniform)	6
Ask other riders	2
Web via cell or pda	1
Phone (cell or pay phone)	3
Announcements made by station agents	10
Other: please describe - Signs in bus, BART	1*

10) Are you currently able to get transit information when you need it? If yes, how do you get your information?

- Mostly online.
- I ask friends, look on web or ask people at station.

- Yes, via the web, or by station operators (BART)
- Maps, bus signs
- Don't know.
- Signage and maps posted in station.
- I would look at the schedule posted at the station.
- Most of the time web, phone, print collateral
- Yes. I use the web usually and plan ahead.
- Yes. Through email, internet and/or phone.
- 511
- Web access or telephone calls.
- Yes - web and phone.

11) In general, how important is it to be able to get information about travel alternatives or options such as different modes of travel or other transit operators?

- Often important.
- Very important x8
- Not very
- It is very important. Need to get to the destination.
- It's very important that alternatives are presented. Ideally, there would be a website where you input Point A to Point B and a script would cross reference all available transit lines to give you the most effective (cost & time) way to get there.
- Not important.

12) Are you familiar with or have you heard of

	Yes	**No**
511 (phone)	11	2
511.org (web)	8	5

13) Have you ever used the phone number, 511? If yes, please provide 2-3 words describing your experience.

- Used once a long while ago. Don't remember the features.
- Yes, it's not very good
- Yes, 511 is excellent. Great information on traffic.
- Great – when there's a live operator.
- Too many options.
- Excellent, fast, informative.
- Very efficient.

14) Have you ever used the websites, 511.org or transit.511.org? If yes, please provide 2-3 words describing your experience.

- Great – but I get different answers when planning my trip.
- Yes – use it all the time – currently no updated info on Bay Bridge closures though – BAD.
- Works wonderful.
- Excellent, fast, informative.
- Very user friendly.

Signage

1) On a scale of 1-5, how helpful is the signage at the station you use most frequently?

Rating	Count	Stations Named
1	0	
2	0	
3	6	El Cerrito, Fremont Station, Coliseum, Oakland West, Fruitvale, MacArthur, Montgomery, Antioch, Baypoint
4	3	MacArthur, El Cerrito
5	3	12th Street Oakland to Dublin, Coliseum, 19th Street

2) Please rate the adequacy of the following types of signs you find at the station you use most frequently. H = more than adequate, M= adequate and Low = inadequate.

Type of Sign Encountered	Count and Stations Named		
	H	M	L
Signs identifying the station and transit operators	6 Oakland West, MacArthur, 12th St Oakland to Dublin, El Cerrito, Montgomery, 19th Street, no station named	6 El Cerrito, Fremont, Coliseum, Fruitvale, West Oakland, Antioch, Baypoint, Bayfair, Dublin	0
Directional signage for moving around or entering and exiting the station	2 Fremont, Coliseum	9 El Cerrito, Oakland West, Fruitvale, MacArthur, 12th St. Oakland to Dublin, Montgomery, Antioch, Baypoint, 19th Street, no station named	1 Bayfair, Dublin
Signs that identify where to board or wait for transit	6 Oakland West, Fruitvale, El Cerrito, Coliseum, MacArthur, Montgomery, Antioch, Baypoint	4 El Cerrito, MacArthur, 12th St. Oakland to Dublin, 19th Street, no station named	2 Fremont, Coliseum, Bayfair, Dublin
Signs that identify when your next train/bus is arriving	5 El Cerrito, Oakland West, 12th Street Oakland to Dublin, MacArthur, Montgomery, Antioch, Baypoint, 19th Street	4 Fremont, Coliseum, MacArthur, El Cerrito	3 Fruitvale, Bayfair, Dublin, no station named
Others:	0	0	0

3) Do you think it is important that signs are consistent (look similar) between different transit agencies?

Yes	No
8	5

4) Please tell us why you answered as you did.

- No, I feel that they should vary a lot so that you can easily tell the difference between them.
- No, rarely is an issue.

- Yes, I already know what type of signs to look for and what kind of info is on it.
- Yes, it takes the guesswork out of trying to figure out what the meaning is.
- No, probably impractical because of location differences.
- Yes, just like traffic signs – it's easier to identify signs that are consistent and everyone knows what those signs are.
- Yes, makes it easier.
- Yes, if the signs are consistent, then it is easier to identify the transit you are taking. Easier to look for one sign.
- No, need to eliminate confusion – different signage / different entity.
- No, as long as the information is coherent, aesthetics shouldn't matter.
- Yes, people generally look for similar features. It is important to stay consistent in order to keep confusion at a minimum.
- Yes, because it could confuse someone who is used to the sign at another agency.
- Yes, so you know it's incorporated with transferring or another alternative.

5) The facilitator will show you a board displaying transit information. In response to the board:

5a) What do you like about the first display?

- Like the colors, easy to read, very clear and detailed.
- Color coding
- Looks like the display on BART. Very simple.
- It seems concise and complete.
- Color coded
- It easy to read with the color codes.
- Color code map detailed nicely.
- Very detailed on stations.
- Color codes relatively comprehensive.
- Integrating the various transit authorities is good.
- Great detail, simple and colors.
- Colorful.
- Color coordination, simplicity.

5b) What do you dislike about the first display?

- Can be confusing if you're in a hurry or unfamiliar with area.
- Small lettering
- Nothing
- It seems cluttered, but it might be because there is a lot of information.
- Too many legend colors.
- Maybe a little busy looking.
- Not enough for unfamiliar tourist.

- Too complicated to read, lots of color coded items.
- Freeways in relation to.
- It would need to be a very large sign!
- Could be confusing to some, especially visitors or commuters.
- The lines telling you how to ride BART – where each train goes.

5c) Is the information helpful or complete? If not, what information is needed?

- Very helpful.
- It's ok.
- I think it's useful and complete.
- ??
- Fairly complete.
- Yes it looks complete.
- More information.
- Seems completed because it shows every stop.
- Freeways in relation to.
- Helpful.
-
-
- 6) The facilitator will show you a board displaying transit information. In response to the board:

6a) What do you like about the second display?

- Like the station map, easier to read, detailed to area.
- Liked the text listings with frequency.
- Times are on there.
- Clear, lots of info, helps tie the information on the first slide.
- Simple.
- Not much.
- I don't.
- Easier to read the destinations.
- Schedules. Different agencies represented.
- I like the "going to popular destinations." Map of station and adjoining streets and exits should be in all locations.
- More informative in terms of timing; however, this diagram does attract much attention.
- Detailed.
- Area map, schedules. Clear.

6b) What do you dislike about the second display?

- Lettering a bit too small.

- Very plain. More detailed. How long from A to B? Approx.?
- Nothing!
- No label legend.
- Too difficult to read. Too busy.
- Confusing – too gray.
- Did not dislike this display.
- Should have complete schedule.
- Not that colorful.
- No color coordination.

6c) Is the information helpful or complete? If not, what information is needed?

- Helpful.
- Pretty helpful and complete.
- Looked complete.
- Incomplete (no label legend)
- Don't know because it would take a while to really read the info.
- Can't tell – overwhelmed.
- Info was very helpful. Had a schedule for each bus.
- Helpful – definitely.
- Undecided.

Section 3 RealTime Information

1) Do you use or encounter RealTime information during any part of your trip? (Check all that apply.)

Type of RealTime Encountered	**Count**
Electronic displays at train stations or bus stops	13
Web site accessed at home/work or via pda	3
Call 511 on phone	3
Call transit agencies by phone	1
Updates provide by TV or radio during commute hours	6
Others: Station agent or computerized voice over PA	2

2) Please rate on a scale of 1-5 how helpful you find RealTime information. (1=Not Helpful, 5=Very Helpful)

Rating	**Count**
1	0
2	0
3	0
4	3
5	10

3) If you find RealTime information helpful, please tell us how it is helpful to you.

- So that I know that train is on time or if there are delays, why.
- When I'm running late I can hear operator on speaker saying "Fremont train in 5 minutes" so I know if I need to run or walk.
- Helps me budget time.
- You can plan an alternate route if needed.
- It is pretty right on – with the times, I can plan my trip.
- Lets riders know exactly what is going on on the transit system.
- If I am on BART or MUNI – I almost never check the schedule during business hours.
- Gauge ETA / alternative planning.
- RealTime gives you an idea of either your departure or arrival. It also gives you information to give to a ride if someone is picking you up.
- Keeps you updated and aware of things.
- Lets you know how much time you've got, delay, early etc.
- Train times, delay info
- Mental reassurance, compare to printed schedules.

4) RealTime information can be provided in several ways. Please rate your preference for receiving Real Time information: (1= least preferred and 5 = most preferred)

Type of RealTime Info	Count per Rating					
	1	2	3	4	5	✓ instead of rating
Electronic displays at train stations or bus stops	0	0	0	0	10	2
Web site accessed at home/work or via pda	3	0	5	1	1	0
Phone	0	2	2	2	4	1
Updates provide by TV and radio during commute hours	4	3	0	2	2	0
Station announcements	0	0	0	5	6	2
Other: please describe	0	0	0	0	0	0

5) Where should Real Time services that are provided by electronic display be located to be most helpful to you?

- They are okay where they are.
- Front of station – maybe
- Above head, as in the way BART provides information.
- At the station (outside).
- Where they are is fine.
- The entrance of the BART stations.
- Embarcadero Station has the best by far showing a TV display of where the trains are.
- Outside station.
- At each BART station or station hub platform.
- Where they are now at BART.
- On the platforms, entering the station, ticket vending.
- By upper platform, near ticket machines, on bus shelters
- At BART platforms and entrances.

6) If RealTime information includes multiple agencies are listed, how should the information be organized? Do you want to see arrival predictions sorted by agency or by the next vehicle approaching? Other ideas?

- Don't use multiple agencies at one location enough to comment.
- By time.
- Want to see arrival predictions sorted by agency or by the next vehicle approaching.
- By the next vehicle approaching x2
- Next vehicle arrival.
- Next vehicle. Should be like Embarcadero.

- Respondent circled "sorted by agency" and wrote "Hmm…"
- Sorted by agency x2
- By next vehicle approaching, don't want to confuse transit riders with too much info.
- Maybe have a screen designated to the agencies.
- Yes, between BART / Bus have small time gap

Section 4 Transit Signage- Existing

1) On a scale of 1-5, how easy is it to find your way from/to your transit connections at the hub or station you use most frequently? (1=Very Difficult, 5=Very Easy)

Rating	Count
1	0
2	2
3	0
4	2
5	3

Note: 6 out of 13 respondents did not answer this question.

2) Are there enough signs to help get you to your connecting service or destination?

Yes	No
6	1

Note: 6 out of 13 respondents did not answer this question.

3) If no, where should they be located?

- A lot more places and lower.

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	*Not acceptable*	*Preferred*
A1	▪ Out of the "50's" ▪ Looks unfinished, very old. ▪ It's OK, not inviting. Not acceptable. ▪ Inadequate. ▪ Looks more like a taco stand. ▪ What is the building? ▪ Looks like a restaurant. ▪ Nondescript. ▪ Not inviting – confusing. ▪ Small, old – souvenir shop. ▪ Small, 2nd story? ▪ What is it?	▪ Somewhat better because you see "Transit Center' ▪ More detailed. Explains what's there. I like it. ▪ Tells me exactly what it is – Transit Center. ▪ Improved. ▪ The transit sign helps but it still looks like a taco st ▪ Better, Transit Center is on top. Easy to read. ▪ Signs are confusing. ▪ Destination. ▪ You still can't tell that multiple authorities stop the take care of the white signs on kiosk. ▪ Identifies what it is; however, unprofessional. ▪ Sign is nice (Transit Center). Still not impressed. ▪ Identify transit station. Picture of bus. ▪ Much clearer, easy to find but can be more accessi language.	6	4	4
A2	▪ Uncertain of exactly what it is ▪ Simple/not very much detailed. ▪ Sign hard to find. Not acceptable. ▪ Inadequate. ▪ No information for the riders. ▪ Hard to identify. ▪ Can't tell where it's going. ▪ What is it? ▪ From the photo – no signage. ▪ What is it! Where is it going? ▪ Don't know that the signs pertain to the station. ▪ No idea what agency. ▪ What agency?	▪ Much better with the big signage ▪ Very detailed. Identifies exactly where you are goi ▪ Better identification. ▪ Easier read. ▪ The sign definitely helps. ▪ Signs are easier to read. ▪ Better for seeing. ▪ Identification ▪ Much more clearly defined – all BART entrances n signage. ▪ Familiar, visible. ▪ Signs are nice, much better. ▪ Informative, easy to read. ▪ Much better.	7	0	6

B1	▪ Signs are not clear. ▪ Don't see info that I would want to see right away. ▪ What signs? Not acceptable. ▪ 2 signs are too small, poor location. ▪ Not enough info. Not visible. ▪ Horrible sign. Not noticeable, too high to read. ▪ No directions for the bus. Not clear. ▪ No directions. ▪ No information on where the exit goes. ▪ Way to buses. ▪ Which way to the buses? Where do I get picked u	▪ World of difference! Much better. ▪ Good signs. More details. ▪ Much better. ▪ Clearer, color coded/contrast, more info. ▪ Signs are easy to see and read. ▪ This sign is much easier to read. Very nice & simp ▪ Clearer directions. ▪ Comprehensive ▪ Clear – like at the airport. ▪ Much more detail. ▪ Much more colorful and detailed. ▪ Easier to find way. ▪ Much better, better detail.	6	0	8
B6	▪ OK ▪ Acceptable. Plain. ▪ What are they trying to communicate? Not accept ▪ OK. ▪ Not enough info. ▪ Sign is too simple. ▪ Too plain. ▪ Stark ▪ I can get around so it's fine ▪ Not enough info. ▪ More advertising than direction? ▪ Bigger text! More info. More detail.	▪ Like the addition of the logos ▪ Better view but still the same to me. ▪ What are they trying to communicate? ▪ Clearer, e.g. arrows. ▪ Looks much better and more noticeable. ▪ Sign is much better. Logo is good. ▪ Better – make another arrow. ▪ Better ▪ Directional change, colors capture attention. ▪ Still not really enough info. ▪ More defined for people who don't read. Arrow d ▪ Add directional arrows.	3	3	6
			Note: One respondent said "it doesn't matter" and one more didn't rate this slide.		

B7	▪ Pretty clear. ▪ Looks helpful but never been there. ▪ Too confusing. Not acceptable. ▪ Basic and functional. ▪ Does not stand out. Outdated sign. ▪ Plain. ▪ Lots of info. ▪ Good. ▪ Pretty good sign – a lot of information. ▪ OK. No change needed. Ex't, Drumm; Ferry Bld ▪ Lots of needed info.	▪ Even better – more specific. ▪ Better looking. More info. Simple!! ▪ Much better. ▪ Much better, easier to see and read. ▪ More modern. Easy to read. Love this sign. ▪ Better. ▪ Better – how far! ▪ Much better. Blocks good – should still show ▪ Simple, specified blocks, bright color attract attent ▪ Even better – more color and information. ▪ Too much color. Beatles yellow sub? Pyschedelic ▪ Great detail. Easy to read.	4	0	9
C1	▪ Not much in the way of signs. ▪ Looks confusing. ▪ No useful information. Not acceptable. ▪ Not enough info. ▪ Hard to understand signs. ▪ Not enough sign. ▪ Small signs ▪ Not the best, but I would be able to get around. ▪ Signs not large enough and/or informative. ▪ Informative. ▪ More seats. More info. ▪ Can barely see signage. Real time would be nice.	▪ Clears it up. ▪ Still a bit confusing. More info needed. ▪ That is Platform B? ▪ Needs a little more info like that it is Platform B. ▪ Still hard to understand. ▪ More clear on that it's B. ▪ Larger ▪ Much better. Didn't know. Knowing that it's Plat very confusing. ▪ Directional signage could be clearer. ▪ Even better – a lot of information. Put platform o ▪ Much improvement. Identify platform. ▪ Useless – made me more confused. Tell me which that's it.	4	5	4

C2	▪ Need closer signs. ▪ Not too much info. Not clear. ▪ How am I going to find the bus stop? Not accept ▪ Not visible enough – not clear. ▪ No sign at all. Hard to get to your bus. ▪ Too small of a sign. ▪ Small sign ▪ No – no information on what DASH is. ▪ What is DASH? Where does it go? ▪ No signs, no direction. ▪ What is DASH? Bigger sign	▪ More noticeable from farther away. ▪ A bit better but more info needed. ▪ Better, not perfect. If there were other bus stops differentiate? ▪ Better but could be more visible. ▪ Sign is good. ▪ Better sign. ▪ Free and compelling. ▪ Still don't know what it is – wouldn't know how t ▪ Not visible if buses are blocking. ▪ Easier access. Lets riders know where shuttle. ▪ Should be taller but definitely better.	4	4	4
D1	▪ Not easy to sort out relevant info. Hard to read. ▪ Ugly but looks well detailed but too much info! ▪ Lots of info. Not acceptable. ▪ Hard to read – too much info. ▪ Obsolete sign. Hard to read. ▪ I like it's in 3 compartments. ▪ Incohesive. ▪ Lots of info – would spend a lot of time looking. ▪ Needs some type of organization. Too small. ▪ Too much put into one space, if not sure how to confusing. ▪ A lot of info. Not easy access. Stupid. ▪ Hard to read, too much info, not organized.	▪ Clearer, cleaner, optically better. ▪ Cleaner and better drawing. Great details. A+. ▪ Much cleaner, easier to read, user friendly. ▪ Much better and easier to read. ▪ Nicer sign, easy to read. Great sign. ▪ Good information. ▪ Love the walk times. Bigger, better. ▪ Clean map. ▪ Cohesive, clear, legend is helpful. ▪ Much better and informative, colorful. ▪ Clearer and identified. Clearer colors and more in ▪ Great info! Very easy to read, very clear.	2	2	9
E1	▪ Looks OK. ▪ Not big, not enough details. ▪ What are they trying to communicate? Not accept ▪ Simple enough to read but hard to notice. ▪ Hard to read. ▪ Confusing sign. ▪ Too much detail. ▪ TVs are great. Every station should have one. ▪ More information, quite detailed. ▪ Small; unnoticeable. ▪ Good info. Not too familiar with station.	▪ Slightly better in visibility, but less detail. ▪ Yes. It's good. Simple and good detail, good size. ▪ Clarifies that the next train is in 2 minutes.] ▪ Much simpler – easier to read and notice. ▪ Bigger and easier to read. ▪ Better. ▪ All I need. ▪ Should say "All Trains to SF" like on the Peninsul ▪ Not hard to read. ▪ Very helpful. ▪ Looks like it is much better and easier to see.	4 Note: 3 respondents didn't rate this slide.	0	6

B3	▪ Signs too small and drab ▪ Not very helpful. Not enough info. ▪ I could easily miss this sign. Not acceptable. ▪ Incomplete on side e.g. "access route" ▪ Information is hard to notice. ▪ Not easy to read. Must look at the wall. Doesn't s ▪ Too small of signs. ▪ Stark/airport ▪ Maybe arrows? Not too clear but I could get arou ▪ Where am I going? ▪ Confusing. Doesn't identify. ▪ No info. Mirror for corners? Not big enough sigr ▪ Small signs. Higher is easier to read.	▪ Better media – brighter, more eye-catching. ▪ Very detailed. Time is always important. ▪ Much, much better. ▪ Clearer, better organized. ▪ Looks more professional and noticeable. ▪ Much improved. Great sign, it's noticeable. ▪ Clearer – needs real time. ▪ More info – destination / departure. ▪ Destination and time – real-time. ▪ More information, organized, departing times. ▪ Readable, a lot of information, colorful. ▪ Bigger sign, area direction. ▪ So much easier to read – more helpful info.	7	0	7
B6	▪ OK ▪ Acceptable. Plain. ▪ What are they trying to communicate? Not accept ▪ OK. ▪ Not enough info. ▪ Sign is too simple. ▪ Too plain. ▪ Stark ▪ I can get around so it's fine ▪ Not enough info. ▪ More advertising than direction? ▪ Bigger text! More info. More detail.	▪ Like the addition of the logos ▪ Better view but still the same to me. ▪ What are they trying to communicate? ▪ Clearer, e.g. arrows. ▪ Looks much better and more noticeable. ▪ Sign is much better. Logo is good. ▪ Better – make another arrow. ▪ Better ▪ Directional change, colors capture attention. ▪ Still not really enough info. ▪ More defined for people who don't read. Arrow d ▪ Add directional arrows.	3	3	6
			Note: One respondent said "it doesn't matter" and one more didn't rate this slide.		

Appendices Part C – Improving Customer Use of Transit Information

South Bay, San Carlos November 2, 2005

PARTICIPANTS South Bay - Tuesday, November 2, 2005					
#	City	Gender	Age	Race	Frequency of Transit Use
1	San Jose	M	36-45	Latino	Reg
2	Oakland & San Jose	F	18-35	African American	Reg
3	San Jose	M	36-45	South East Asian	Reg
4	Sunnyvale	F	18-35	Asian	Reg
5	Fremont	M	55+	Asian	Infreq
6	Burlingame	F	35-45	White	Infreq
7	San Jose	M	18-35	African American	Reg
8	San Jose	M	18-35	Mixed	Infreq
9	Palo Alto	M	35-45	African American	Reg
10	San Jose	F	18-35	White	Reg/Infreq
11	Pittsburg	M	18-35	South East Asian	Reg
12	Santa Clara	M	36-45	Latino	Reg
13	Sunnyvale	M	46-55	White	Reg
14	San Jose	F	18-35	African American	Reg

Section 1 Transit Information

1) How often do you take public transit in the Bay Area?

- Maybe 4-5 times a month.
- 4 times per week x2
- Only a few times a year.
- 5-6 days a week.
- Everyday x3
- Twice a week.
- A few times a month.
- 5 days a week.
- Few times a week.
- 5 times per month.
- 4 days a week.

2) Are you more likely to use public transit during the week, weekend or both?

- Both x6
- Week x5
- Weekend
- More likely during the weekends but sometimes during the week.
- Weekdays, sometimes on weekends.

3) What is the typical purpose of your trip when you use public transit? Please check one.

Purpose	Count
Travel to / from work	8
Travel to / from school	5
Business travel	3
Visit family of friends	4
Shopping / errands	4
Leisure/recreation	7*
Other: please describe: Sporting events, concerts* Leisure/recreation use on weekends.	1

4) What types of transit or operators do you use? (Name all that apply)

- BART, MUNI, VTA
- Train, BART, shuttle, bus, car
- BART, Caltrain x2
- Caltrain, Samtrans, VTA x2
- VTA (bus, light-rail), Caltrain
- Bus, Caltrain, BART, lightrail
- Caltrain, VTA x2
- BART, MUNI
- Caltrain, VTA light rail, BART, MUNI
- Caltrain, BART, MUNI
- BART, AC Transit

5) Assume you had to take public transit to an unfamiliar location. Where would you go for information and how would you go about planning your trip?

- I would call 411, ask for the transit system and speak directly to a service agent.
- Go to BART or AC Transit website after asking what's the nearest to place.
- Internet search – would use website to plan trip.
- 511.org, caltrain.org, samtrans.org
- Online x2
- VTA 511 website

- Either Caltrain, VTA or BART websites.
- Google.com, Mapquest.
- Internet
- Take the BART there and ask the people or the bus drivers or the people at the BART station (that work for BART).
- Transitinfo.org aka 511.org, I think it's called.
- 511.org.
- Use websites for the transit system, e.g., BART or AC Transit web sites can be accessed to plan the tip and get information of fare/schedule.

6) How important is 24-hour access to transit information for you. Please rate on a scale of 1-5 (1=Not Important and 5=Very Important).

Rating	Count
1	1
2	0
3	0
4	2
5	11

7) If 24 hour access is important to you, please check which method you prefer:

Method	Count
Web	9
Phone	6

Note: One respondent checked both methods.

8) When you are ***away from the station or transit hub,*** please identify the information you need and choose a letter that matches the source of that information.

Information	A-Web access from home or work	B- Web access through pda or cell phone	C- Phone- recorded message	D- Phone- live operator	E- Printed map or schedule	F-Ask a friend or colleague who uses transit regularly	G-Other-please describe:
Schedules	10	3	1	4	4	0	0
Identify which bus/ train to take	9	4	1	2	4	3	0
Location to board transit	11	2	1	1	4	1	0
Location to make transfer	9	2	1	2	4	1	1 - signs
Real-time arrival predictions	8	3	0	1	1	2	1 – current marquee sign
Fares	10	2	0	0	3	1	1 – location by fare machine to purchase tickets
Other:	1	0	0	1	1	0	0

Note: Some respondents selected more than one source for each type of information. "Other" information was not described by any of the respondents who checked it. Also, one respondent checked all information without clearly choosing any sources.

9) When you are ***at** the station or transit hub*, how do you prefer to get your transit information? (Please check all that apply.)

Transit Information	Count
Signage and maps posted in station	12
Information kiosks	8
Agency display cases	3
Ask an operator (or person in uniform)	11
Ask other riders	3

Web via cell or pda	2
Phone (cell or pay phone)	4
Announcements made by station agents	10
Other: please describe	0

10) Are you currently able to get transit information when you need it? If yes, how do you get your information?

- Yes, when I get to the departure station if I haven't already checked by phone, I will check signage and maps for times and locations.
- Updates through radio, on morning news.
- Yes – websites.
- No, if a Caltrain is running late, I have no good way to find out. Especially when the information number is closed.
- Internet x2
- Yes – VTA/511, cell phone
- Yes, online.
- I use the web.
- Not always, through printed schedules.
- Asking the people working there – bus drivers. Map (in the bus & BART).
- Sometimes. Web info is very good. But, PDA/cell support is poor. Stations should announce what train is arriving, and, if limited service, which stops it won't make.
- Yes, from train station kiosk.
- By using web site and printed maps/schedules.

11) In general, how important is it to be able to get information about travel alternatives or options such as different modes of travel or other transit operators?

- Very important, with emergencies or route alternatives having immediate access to that pertinent information can determine the trip the rider has.
- Important
- Very important so as to be able to compare schedules and rates.
- Not very x2
- Very important x8
- It is extremely crucial to have the information available at your fingertips (literally & figuratively speaking) because it presents me with cost-effective choices in an instantaneous manner.

12) Are you familiar with or have you heard of

	Yes	No
511 (phone)	10	4
511.org (web)	10	4

13) Have you ever used the phone number, 511? If yes, please provide 2-3 words describing your experience.

- Appreciative, convenient
- Once. Just as convenient as 411/911.

14) Have you ever used the websites, 511.org or transit.511.org? If yes, please provide 2-3 words describing your experience.

- Once. Unfamiliar.
- Yes, cumbersome to use.
- Very helpful.
- Transit.511.org; fairly easy to navigate.
- Yes, I just browsed through the website.
- Yes. Good concept, but very bad at getting origin/destination addresses correct. I almost always have to select from map.
- Yes, I think it's a great way to get public transit information in places I am unfamiliar with, especially with transfers.
- Very informative. Instant information for planning trip. Option of printing schedules/info.

Section 2 Signage

1) On a scale of 1-5, how helpful is the signage at the station you use most frequently?

Rating	Count	Stations Named
1	0	
2	0	
3	8	San Carlos, Santa Clara, First & Santa Clara, San Jose, Castro Street Mountain View, Fremont Bart, Sunnyvale
4	2	West Oakland BART, San Jose Diridon
5	4	BART/Coliseum, Caltrain San Jose, Civic Center, San Jose (Diridon), Millbrae, Berkeley, Fremont

2) Please rate the adequacy of the following types of signs you find at the station you use most frequently. H = more than adequate, M= adequate and Low = inadequate.

Type of Sign Encountered	Count and Stations Named		
	H	M	L
Signs identifying the station and transit operators	4 San Carlos Caltrain, SJ Diridon Caltrain, Millbrae, Berkeley, Sunnyvale, no station named (San Jose?)	7 West Oakland, Coliseum, SJ Diridon Caltrain, Civic Center, Santa Clara Caltrain, Fremont	2 Mountain View Caltrain, Fremont
Directional signage for moving around or entering and exiting the station	5 San Carlos Caltrain, SJ Diridon Caltrain, Millbrae, Berkeley, Sunnyvale, no station named (San Jose?)	7 Coliseum, SJ Diridon Caltrain, Civic Center, Santa Clara Caltrain, Mountain View Caltrain, Fremont	1 West Oakland
Signs that identify where to board or wait for transit	4 West Oakland, San Carlos Caltrain, SJ Diridon Caltrain, Millbrae, Berkeley, Sunnyvale	9 Coliseum, SJ Diridon Caltrain, Civic Center, Santa Clara Caltrain, Mountain View Caltrain, Fremont, no station named (San Jose?)	0
Signs that identify when your next train/bus is arriving	3 West Oakland, SJ Diridon Caltrain, Millbrae, Berkeley, Sunnyvale	5 Coliseum, SJ Diridon Caltrain, Civic Center, Fremont	5 San Carlos Caltrain, Santa Clara Caltrain, SJ Diridon Caltrain, Mountain View Caltrain, no station named (San Jose?)
Others: Light rail doesn't have times for all stops. Very hard to tell which Caltrain is boarding where at San Jose, i.e. whether train makes all stops or not.	0	0	1

Note that one respondent named 1st & Santa Clara station but gave no ratings.

3) Do you think it is important that signs are consistent (look similar) between different transit agencies?

Yes	No
10	4

4) Please tell us why you answered as you did.

- No, I want to be able to distinguish signs between different transit agencies.
- Yes, so it'd be easier.
- Yes, I want to be able to easily spot and identify the kind of information I'm looking for. Consistent signage makes different types of info easy to identify.
- Yes, sometimes, you have to move quickly between the bus and the train.
- Yes, because, like in Palo Alto, they are mixed.
- Yes, consistency would enable transfers between systems.
- Yes, pattern of recognition.
- Yes, make it easy to identify key info.
- Yes, I never saw any station showing signs of when next train arrive.
- No, because each agency should be unique.
- No, different info is needed at different stations. Stations have different layouts. SF Caltrain has many tracks, San Jose has only two. San Jose needs more electronic display, SF doesn't.
- Yes, the signs look the same but they are not always in the same place.
- No, if there's something unique to a train station, I would like the signage to be different.
- Yes, consistency in obtaining information.

5) The facilitator will show you a board displaying transit information. In response to the board:

5a) What do you like about the first display?

- Unsure other than color.
- Track identifiers like BART.
- Lots of info
- A little too complicated, reminds me of the BART system map.
- Color
- Graphics seem clear, comprehensible.
- Topographical representation.
- I like the maps.
- Large maps.
- Positioning of information.
- It's in color.
- Colors help you see it better.
- I like the detailed map where it zoomed in to the local area.
- Map gives clear information about route.

5b) What do you dislike about the first display?

- Seemed too much information, different transit lines.
- Too much going on, too much detail – when rushing I would like easier.
- Nothing
- Too complicated.
- Too compact
- The map seems to have too many colors.
- Too small to read (index)
- Very cluttered information.
- Nothing
- Too much info!
- Nothing.

5c) Is the information helpful or complete? If not, what information is needed?

- I suppose.
- It would be complete if displayed next to the board discussed in question 6.
- Helpful, but I would not just show up and look at these.
- Highlight hospitals, attractions, government buildings.
- On a short glance, info seems complete.
- Yes, it's helpful.
- Seems OK at a glance.
- Writing is too small, needs to be larger.
- Don't know
- Yes but I gotta figure out how to use it!
- Yes, complete.
- Very helpful.

6) The facilitator will show you a board displaying transit information. In response to the board:

6a) What do you like about the second display?

- It had travel times for different transit systems.
- Lots of info; info about more than one transit system which is useful for comparisons.
- Looks okay.
- Times buses frequency
- Seems comprehensive.
- Time intervals and location
- Destinations

- Coloring was better for viewing.
- Nothing
- Nothing.
- I like the diverse bus station times in the schedule.
- Very neat, helpful in planning trip.

6b) What do you dislike about the second display?

- Black and white
- Not easy to read if rushing.
- Nothing.
- Like color.
- No arrival times.
- Graphically, it is very weak; no colors to differentiate info.
- Too much information has been condensed.
- Needs times
- Left side map
- Not enough information.
- I don't understand how to use it. I can't tell when the buses board. Should have a big red circle on the left side.
- Too many numbers (don't know how to read it).
- Nothing.

6c) Is the information helpful or complete? If not, what information is needed?

- Probably.
- It would be complete if displayed next to the board discussed in question 5.
- Schedules.
- Arrival and departure times.
- Info seems complete.
- Helpful but should "breathe."
- I would like specific times for the bus.
- Somewhat complete.
- More information in general is needed.
- How to read it!
- Helpful.

1) Do you use or encounter RealTime information during any part of your trip? (Check all that apply.)

Type of RealTime Encountered	Count
Electronic displays at train stations or bus stops	10
Web site accessed at home/work or via pda	6
Call 511 on phone	1
Call transit agencies by phone	4
Updates provide by TV or radio during commute hours	5
Others: Announcing over intercom system.	1

Comments:

- I do not encounter this type of display. (This respondent did not make any ratings or other comments.)

2) Please rate on a scale of 1-5 how helpful you find RealTime information. (1=Not Helpful, 5=Very Helpful)

Rating	Count
1	1
2	0
3	1
4	0
5	12

Note: One respondent answered both 1 ("because Caltrain doesn't have it) and 5 ("If a station has it, it's great!")

3) If you find RealTime information helpful, please tell us how it is helpful to you.

- That is telling me exactly to the minute how long it will be.
- Only when you are at the pickup area – where the doors open.

- I like to know exactly what is going to happen so that if I'm going to be late I can call ahead and let someone know; also just for general peace of mind so that I know how long I will have to wait.
- Extremely helpful.
- Helps you know how long you're waiting, if you need to use other options, go somewhere first.
- Up to date, live, instant and time-saving.
- Lets me know how long till the next train or BART comes.
- I don't have to look at maps, timings.
- Because, one needs to have up to minute updates on ETA's, etc.
- I know to call people and tell them I'll be late. I know whether to switch to BART at Millbrae or stay on Caltrain. I know if I have time to buy a snack.
- To know what time I am gonna make it to my destination.
- It lets me know if there's a delay or if it will arrive early.
- To plan trip in an efficient manner.

4) RealTime information can be provided in several ways. Please rate your preference for receiving Real Time information: (1= least preferred and 5 = most preferred)

Type of RealTime Info	Count per Rating					
	1	2	3	4	5	✓ instead of rating
Electronic displays at train stations or bus stops	1	0	0	1	9	2
Web site accessed at home/work or via pda	1	1	1	2	5	2
Phone	1	3	3	2	2	1
Updates provided by TV and radio during commute hours	3	3	2	1	2	0
Station announcements	0	0	2	5	4	2
Other: please describe	0	0	0	0	0	0

5) Where should Real Time services that are provided by electronic display be located to be most helpful to you?

- By ticket machines, boarding gates or entrances, exits.
- By front entry of station/hub.
- At the station and outside the station. It would be nice to know before I enter the BART station and pay for a ticket whether the trains are running on time.

- At the ticket vending kiosk.
- Next to the track or stop.
- Close to boarding spaces and at the entrance of the station (hall).
- Where you wait for the bus, BART or train and in the ticket area.
- Station, web, phone
- Inside stations.
- San Jose Caltrain!!!! On the marquee. All other Caltrains. You have signs, why don't you use them? VTA light rail. (Vasona extension doesn't have the info.)
- Stations (where they already are).
- At the entrance of train station.
- Transit Center/BART station

6) If RealTime information includes multiple agencies are listed, how should the information be organized? Do you want to see arrival predictions sorted by agency or by the next vehicle approaching? Other ideas?

- Next vehicle approaching x3
- A-Z, by next train to arrive, multiple displays
- Sorted by agency, maybe color-coded
- Use icons – a bus symbol for a bus, etc.
- By agency x3
- By agency. Perhaps have separate displays or a kiosk.
- Both!
- Sorted by next available.
- Arrival time by agency.

Section 3 Transit Signage- Existing

1) On a scale of 1-5, how easy is it to find your way from/to your transit connections at the hub or station you use most frequently? (1=Very Difficult, 5=Very Easy)

Rating	Count
1	0
2	3
3	7
4	0
5	0

Note: Four out of 14 respondents did not answer this question.

2) Are there enough signs to help get you to your connecting service or destination?

Yes	No
2	8

Note: Four out of 14 respondents did not answer this question.

3) If no, where should they be located?

- Prominent place up high.
- Near ticketing and on tracks.
- Station
- In the lobby or ticket area.
- Inside station.
- San Jose Caltrain has no indication at the platform or over the speaker what train is arriving or where it is going. ANYTHING would be better.
- Same location at every station, like where you buy the ticket.

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	*Not acceptable*	*Preferred*
A1	▪ Inconclusive ▪ Old / Ghost town ▪ Not a lot of info. ▪ Ugly too black and white signage. ▪ Dull. ▪ Muddled ▪ Dull; small. ▪ Not acceptable. ▪ Looks like a mini mart. ▪ Kinda "tacky." ▪ Useless. No idea that's even a transit place. ▪ Boring ▪ Not very clear what kinds of train updates ▪ Not clear about the existence of transit.	▪ Signage ▪ Better; still could use more info. ▪ Not acceptable. ▪ Only change is Transit Center. More signs. ▪ Clear ▪ No improvement. ▪ Preferred, good. ▪ Somewhat better. ▪ Better signage. ▪ Much better. Should indicate operators. ▪ Still boring but now I can see it from far. ▪ Clear that it's a main station because of sign. ▪ Much better.	6	4	4
A2	▪ You don't know what ▪ Dark ▪ Not that useful. ▪ Hard to read. ▪ Not obvious. ▪ Unclear ▪ Inconspicuous. ▪ Strange. ▪ Not sure what it is. ▪ Not enough signage. ▪ Not clear what you're looking at. ▪ No ▪ Not very obvious.	▪ Much improvement ▪ Clear ▪ Better; logos are good. ▪ Better. Okay. ▪ Tell you it's BART ▪ Slightly better. ▪ Better. ▪ Much better. ▪ Better signage. ▪ Only suggestion: add "transit" or something. ▪ Better ▪ Obvious ▪ Much clearer.	5	0	9

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	Not acceptable	Preferred
B1	▪ Unknown? ▪ Lost ▪ Not much info. ▪ Impossible. ▪ No directional signs. ▪ Lack of street signs. ▪ No signs to get out. ▪ Where do you go? ▪ Plain ▪ Not clear where to go from here. Is there a cab star ▪ No! ▪ Not clear	▪ Direct and informative ▪ Improvement ▪ Much better; useful; easy to understand; icons are g ▪ Much better; very good. ▪ Directional signs. ▪ More visible. ▪ Better. ▪ Lots of info. ▪ Very informative. ▪ Much better. Like an airport. ▪ Yeah! Just like airport! ▪ Better sign ▪ Informational sign.	2	0	7
B3	▪ Track 3 to what? ▪ Signs don't say enough ▪ No location and departing time. ▪ Hospital atmosphere ▪ Signage not clear ▪ Not much information. ▪ Strange. ▪ No indication of what train is where. ▪ Not clear	▪ Improvement ▪ More information ▪ Better; all the info is tied together. ▪ Location and departing time. ▪ Much much clearer. ▪ More info, more aesthetically attractive. ▪ Better. ▪ Gives you more info. I like the depart time. ▪ Realtimed ▪ Better. Says destination. Has time. Still don't know bullet, etc.) ▪ Has destination lighted ▪ Much clearer	5 Note: 2 respondents did not rate or comment on this slide.	0	7
B6	▪ Advertisement ▪ Vendor advertisement ▪ Okay ▪ No information ▪ Simple ▪ No arrows.	▪ No difference ▪ Not significantly better – add more info. ▪ Better ▪ Logos do not add any info. ▪ What's the difference? ▪ Acceptable.	5	8	0

Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	*Not acceptable*	*Preferred*
	▪ Not enough info ▪ Good ▪ No information ▪ Provides no info. ▪ OK ▪ Not clear	▪ Not any better. ▪ Not acceptable. ▪ No difference. ▪ Not much better. Needs station ID, RealTime, exits ▪ That didn't do anything! ▪ Same ▪ Much clearer	Note: One respondent did not rate or comment on this slide.		
B7	▪ Usable ▪ Okay ▪ Good – includes useful info. ▪ Bad ▪ Informative instead of advertising ▪ Much easier to read ▪ Acceptable. ▪ Looks fine to me. ▪ Very informative. ▪ Better than most BART signs. ▪ Good (helpful)	▪ Improvement ▪ Good info ▪ Better – need more matching signs outside the statio me. ▪ Better ▪ Not much change. ▪ Acceptable. ▪ Tells you more transit info. ▪ Even more information. ▪ Slightly easier to read. Put airporter sign back. ▪ Much better	4	2	7
C1	▪ Bus station? Confusing? ▪ More info needed ▪ Confusing ▪ Not good ▪ Enough info ▪ Acceptable. ▪ Very plain. ▪ Limited information. ▪ No idea what this is. When you get closer, still no i which bus. ▪ Vague. ▪ Not clear	▪ Still a little confusing – need to know where you are ▪ Too much info ▪ Preferred, better labeling. ▪ Not clear which platform you are on. ▪ More precise information. ▪ Like that A/C are larger. Need "B" in big letters, in ▪ Where am I? ▪ Color code inbound/outbound	2 Note: Two respondents commented on but did not rate this slide.	6	4

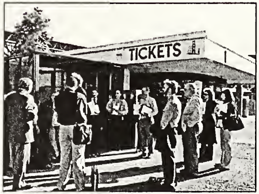
Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	*Not acceptable*	*Preferred*
C2	▪ What transit or where? \$ ▪ Free ▪ Info is not prominent enough ▪ Not good ▪ No info ▪ Dull ▪ Acceptable. ▪ Sign is too small. ▪ Not accurate information. ▪ I use Diridon or my main station, and I've never eve HEARD of DASH. No clue what this is. ▪ Not prominent. ▪ Not obvious.	▪ User friendly ▪ Free ▪ Better – I would like more info about where it goes ▪ Better ▪ Not enough. ▪ "Free" sign ▪ Preferred. ▪ Bigger sign and tells you it is free. ▪ "FREE" is now clear. ▪ Better. But where does it go? How often? ▪ Better. ▪ More emphasis ▪ Very prominent.	1	3	10
D1	▪ Outdated ▪ Not attractive ▪ Not that easy to understand. ▪ Trashy ▪ Tells enough. ▪ Too condensed. ▪ Acceptable. ▪ Sign look old. ▪ Looks outdated. ▪ No you are here. ▪ OK ▪ Not readable. ▪ Not too clear.	▪ User friendly ▪ Much more useful; user friendly. ▪ Great ▪ Bigger sign. ▪ Walk times very helpful. ▪ Much better. ▪ Preferred, very helpful. ▪ I like the time it takes to walk. ▪ Now information is organized. ▪ Vastly better. You know where you are and some p like the ring. ▪ Updated, I like distance walking time. ▪ Much visible.	3 Note: One respondent commented on but did not rate this slide.	0	10
E1	▪ Great to know where the train is. ▪ Bad ▪ Too small ▪ Too much detail. ▪ Acceptable. ▪ Good sign, color code, trains.	▪ Not better – why not include both? ▪ Good ▪ Larger, more detail. ▪ Simple and effective. ▪ Preferred. ▪ Needs more info.	4	5	2

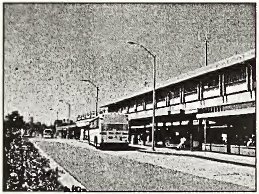
Slide	Impressions of current conditions - before	Impressions of alternative -after	For each slide, please rate (check one):		
			Acceptable	Not acceptable	Preferred
	▪ This is great. ▪ System map should be smaller. Text should be bigg Dublin train in 3 mins." should be focus. ▪ Very good! ▪ Useful ▪ Does not show broad information.	▪ Should be combination of the two. ▪ Has even less info. Could have its uses, i.e. in an ins replace original one. ▪ No ▪ Needs to list more. ▪ Appearance could be improved.	Note: Three respondents neither rated nor commented on this slide; one respondent commented on but did not rate this slide.		

MTC Transit Connectivity Study

Technical Memorandum 4

Proposed Regional Wayfinding Signage Program





Wilbur Smith Associates
Kimley-Horn and Associates
Harley & Associates
Moore Iacofano Goltsman

December 14, 2005

4.1 INTRODUCTION

This technical memorandum describes the preliminary findings of hub survey, customer research, and recommended guidelines for a regional connectivity wayfinding signage program. Among the factors that affect the passenger's ability or propensity to use public transit are the information aids available, pre-trip and en route to provide guidance. Trips involving interagency or intra-agency transfers require passengers to gather information from several agencies pre-trip and follow wayfinding information provided by several agencies (or single agency) en route. Better coordination of this en route wayfinding information (signage) and emphasis upon connections wayfinding will help the passenger travel more confidently through various segments of the trip.

The establishment of wayfinding guidelines for regional transit connectivity is based upon the following:

- A field visit review of the existing signage and physical conditions at five representative prototypical hubs and the study team's perception of observed problems affecting connections.
- A review of the existing wayfinding signage standards and policies of the agencies operating the prototypical hubs, as well as larger network of regional transit hubs.
- Focus groups and questionnaires to obtain the regular users' viewpoints on making connections at the prototypical hubs.
- Travel diaries of non-users' viewpoints of using multiple transit agencies to reach destinations.
- A user-oriented analysis of the above research sources and activities.
- Empirical knowledge and experience with other multi-agency transit systems and what wayfinding components have been successfully used to aid connecting passengers.
- User-oriented analysis of the field visit and focus group findings to determine the meaning for wayfinding guidelines and recommending general and specific design concepts that will improve the ability of transit passengers to make interagency and intra-agency transfers at the prototypical hubs and larger network of regional transit hubs.

In both the field review of the hubs and focus groups, the quality of the wayfinding signage has been identified as a significant factor in the ease or difficulty in making connections. This confirms long-standing transit market research that effective information aids and wayfinding signage are essential (with other incentives) to enticing the public to use transit for trips, especially trips requiring interagency transfers. Travel within the San Francisco region requires the use of more than one transit service. Understanding how to do so, and making it more convenient, is the goal of this study and objective of establishing connectivity wayfinding signage guidelines.

4.2 PRINCIPLES FOR A REGIONAL WAYFINDING SIGNAGE PROGRAM

The Regional Signage Guidelines should be built upon a solid foundation of underlying principles or philosophy. The study team proposes that the existing BART system signage criteria, modified to respond to transit connectivity study needs, should serve as the basis of these principles. These principles are a thread running through the general and sign type guidelines described/illustrated in Appendix A.

Wayfinding is defined as the process which allows people to determine their location or destination, and develop and follow a plan that will help take them from their location to their desired destination.

4.2.1 Purposes of wayfinding and signage:

- To safely and efficiently guide and direct transit passengers who use or will use regional transit systems (trains, buses, ferries, shuttles, and paratransit). Wayfinding for passengers includes directional signage, schedule information, and information regarding transfers among and between different transit systems which operate at a transit center (hub).
- To safely and efficiently guide transit operator employees in their roles in the operations and maintenance of transit systems and to guide emergency personnel in their roles of protecting the public, passengers, and facilities.
- To comply with associated code and regulatory requirements, i.e., Americans with Disabilities Act, other Federal laws, building codes, and California Public Utility Commission requirements.
- To address advertisements to concession-related signage that helps earn revenue for transit operators and to help defray operating costs and minimize potential fare rates. In addition, advertisements provide transit and location information for transit passengers.

4.2.2 Wayfinding design standards and guidelines:

4.2.2.1 Regional Approach

Experience with signage used at airports and along Interstate highways teaches us that there is value in the consistent application of certain signage standards to enhance wayfinding for travelers. Although each airline has its own identity, and the visual appearance of signage may vary among airports, travelers have come to recognize certain common components, i.e., terminology symbols, etc., commonly used throughout the air travel system.

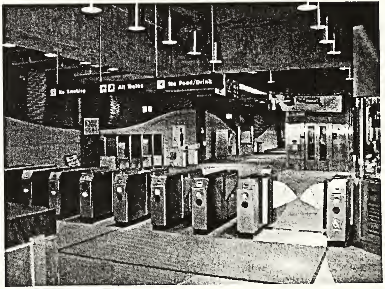
San Francisco could benefit from a "regional" approach among the agencies with different identities whereby certain wayfinding components related to connections information could be a common thread linking their services together. This approach should be explored to provide a "regional connections wayfinding system" that is integrated with (or replaces) ineffective agency signage, yet allows for the diversity of agency corporate identity and architecture. A common connections symbol and color coding used on printed maps, schedules, and new on-street directional signs would be a logical place to start the unification of connectivity wayfinding information.

4.2.2.2 Architecture

Develop wayfinding as an integral part of the architecture and site design and not as an afterthought.

4.2.2.3 Site Design

Make transit centers recognizable within the urban fabric; make entries prominent and easily accessible; arrange routes so that destinations are visible whenever possible; and establish consistent placement of physical elements and services within the context of interesting and unique local design.



4.2.2.4 Decision Points

Spatial planning and design should include analysis of the series of trip segments that an individual must take when entering or leaving a transit center. Decision points are locations where an individual addresses the mid-level wayfinding decisions such as locating entrances and exits and major destination points within the site or facility. Understanding these segments (which comprise the circulation system) serves as a framework for identifying decision points and ultimately, for signing the site and facility.

4.2.2.5 Universal Design

Design facility and its wayfinding devices in accordance with principles of universal design which use simple language, pictograms, icons, and logos to maximize facilities' accessibility, usability, and friendliness for all transit passengers and employees. Code-mandated accessible route signs, tactile/Braille signs, identification of stations, platforms, elevators, permanent spaces, and transit information should be integrated to the greatest extent possible with overall wayfinding and identification signage.

4.2.2.6 Design Redundancy

Designs should include signs with both words and pictograms, audio/visual messages repeated on audio/visual message boards, tactile/visual maps in addition to signage, signs which have letters which are both high-contrast and tactile, and schedule and other transit information available on the internet, by phone, video formats and printed brochures and posters.

4.2.2.7 Understanding

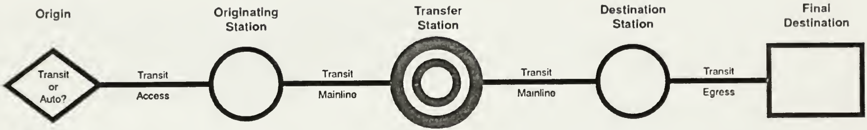
Wayfinding devices should be based upon principles of communication effectiveness:

- Consistency and uniformity refers to a passenger's expectations based upon past experiences (in this case other signs used within the transit system) called cognitive mapping.
- Rehearsal is based upon information given to a passenger prior to using a sign system such as printed maps pre-trip.
- Simplicity is such that a passenger is relatively familiar with the terms and symbols used throughout the sign system.
- Continuity in a sign program is a "building up" of the amount of information presented to the passenger during a trip segment and linking messages between signs.
- Repetition is the easiest form of sign education. Repetition of messages (agencies and connections) can be useful to reinforce destination information through the sequential use of repeating messages without information gaps on various sign types.

4.2.3 Connectivity Wayfinding Informational Needs

Transferring passengers and potential passengers need four types of information to determine if transit will connect their origin and destination for a trip. First, a general knowledge of the *geography* of the route(s) related to the origin and destination is needed. Second, a passenger should understand where the route operates in relation to the connecting routes or modes, and the location of stops, i.e., the *geometry*. Third, knowledge of the *time* of departure and arrival of each, as well as duration, is needed to schedule the trip on transit. Finally, transferring passengers need to know the *fare,* method of payment, and when and where to pay the fare for each.

During a trip requiring connections, passengers rely upon a variety of sources for wayfinding information. The diagram below illustrates the typical information needed by transferring passengers for each segment of a trip, potential sources of information and the relative importance of information types. How important each component is depends upon the type of transferring passenger and service/mode combination undertaken.


Origin
Transit or Auto?
Transit
Access
Originating Station
Transit
Mainline
Transfer Station
Transit
Mainline
Destination Station
Transit
Egress
Final Destination

	Origin	Originating Station	Transfer Station	Destination Station
Sources of Information	• Internet • Telephone • Maps • Schedules • Trip Planner • Travel Information Center • Mobile Telephone	• Wayfinding Signs & Icons • Regional Maps • Schedules • Station Attendant • Bus/Train Operator • Mobile Telephone	• Wayfinding Signs & Icons • Regional Maps • Local Area Maps • Posted Schedules • Station Attendant • Bus/Train Operator • Mobile Telephone	• Wayfinding Signs & Icons • Local Area Maps • Station Attendant • Bus/Train Operator • Mobile Telephone
Relative Importance of Information Types	❸ - Geography ❸ - Geometry ❸ - Fare ❸ - *Time*	① - Geography ② - Geometry ❸ - Fare ❸ - *Time*	① - Geography ❸ - Geometry ❸ - Fare ❸ - *Time*	② - Geography ① - Geometry ① - Fare ① - *Time*

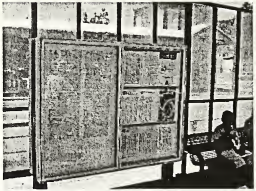
Scale of Importance ❸ - Highest ② - Moderate ① - Lowest

4.3 EXISTING WAYFINDING SIGNAGE CONDITIONS

In order for the recommended wayfinding connectivity signage guidelines to be credible, they must be applicable to "real world" connectivity challenges (informational needs) derived from physical conditions of each hub facility, service operation combinations, and level/quantity of existing signage. These vary greatly within the region, and in Task 2, the consultant team identified a total of 21 hubs having significant interagency or intra-agency transfer activity. Among these 21 hubs, five prototype hubs were selected to represent various location types, service combinations, levels of existing signage, and connectivity informational needs. The existing signage and conditions at these prototype hubs are representative of the signage and connectivity informational needs among the balance of the 21 regional network of hubs, as well as the existing signage standards currently used by the agencies.

San Rafael Transit Center Entrance

Sign concepts and modifications recommended for specific and common problems at these hubs will be extendable to other hubs with similar signage and wayfinding informational needs. A detailed description of each prototype hub and wayfinding signage issues is contained in Technical Memorandum 3A.


San Rafael Maps and Schedules

San Rafael Transit Center is an urban bus-to-bus transit center having local regional, marin, airport, and intercity bus service. The types of connectivity informational needs at this hub (and others like it) include:

- The San Rafael Transit Center needs to be more clearly identified, visible from surrounding roadways by vehicular and pedestrian traffic.
- The platforms need to be more clearly identified.
- The bus boarding areas need to distinguish that there are different boarding points for the same routes, depending upon the direction of travel.
- Maps and schedule information need to be better organized and the connections information should be easier to understand.
- Transit schedules need to be kept up-to-date.

San Rafael Platform Signage

The signage at San Rafael is generic, mono-graphic style developed by the Transit Center architect, unique to this facility. The panel system is relatively easy to change and the locations of the existing signs are generally satisfactory, except the messaging should be modified on some signs to address connectivity needs identified above.

The agency responsible for signage modifications and maintenance at San Rafael is the owner, the City of San Rafael.

El Cerrito Del Norte BART Station is an urban station with parking having regional rail and multiple agency local bus service with off-street boarding. The types of connectivity informational needs at this hub (and others like it) include:

- Clear directions to the correct bus and bus boarding locations need to be provided when exiting the station.
- Because of the multiple transit operators at this station, bolder, distinguishing identification of each agency is needed at bus boarding locations and boarding location maps within the station – perhaps use of logos.
- The bus boarding locations station layout display is too linear and needs color and contrast to define the station shape and have more visual impact and be easier to read. Operator logos are needed.
- Maps and schedule information need to be better organized and designed to make it easier to understand connection information.
- Station entrance and exit signs need to be lowered.

El Cerrito del Norte Entrance Sign

PARA-TRANSIT STOP
BUS STOP
72R
817-1717
El Cerrito del Norte Bus Stop Sign

The signage at El Cerrito Del Norte BART Station uses multiple signage standards representative of each agency's current standards. Connectivity informational needs can be met by a combination of replacement and modification of existing signage. Signs are, in general, well positioned, except some directional signs may be added.

Dublin/Pleasanton BART Station is a suburban station with parking, having regional rail and multiple agency local bus service with off-street boarding. The types of connectivity informational needs at this hub (and others like it) include:

- Better directions to the connecting buses located on the north (Dublin side) and south (Pleasanton side) are needed quite some distance from the station.
- Directional signage to taxi, drop-off/pick-up and shuttle stops is needed.
- Better directions to the station entrance from the parking areas and bus stops are needed.
- Bus stop signs need to be bolder and utilize agency logos to distinguish among the agency stops.
- Connection information displays need to be better organized and lit.
- Real-time display outside the paid area needs to emphasize when the next train departs.

BUS STOP LOCATIONS
BUS STOP LOCATIONS
7,8,9,
10 Downtown Pleasanton/ Livermore
Dublin/Pleasanton Station Bus Directional Signs

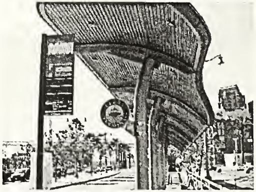
The signage at the Dublin/Pleasanton BART Station primarily uses the BART standards within the station and agency bus stop standards at the bus boarding areas. Connectivity informational needs can be met by a combination of replacement and modification of existing signage. Signs around the entrance are not well positioned – too small, high and poorly lit.

BART
Station Map
NO SMOKING
Dublin/Pleasanton Station Map

San Francisco Ferry Terminal/Embarcadero Station is an urban hub with ferry, regional and local rail, and multiple agency bus service with on-street boarding. In addition to regular users, this hub serves tourists and visitors to downtown San Francisco. Because of the size and variation of this hub, there are many types of connectivity informational needs, including:

- Entrances to and from the ferries and terminal building need to be more clearly marked.
- Directional signage from the terminal building to MUNI, BART, AMTRAK, cable car, Market Street, Transbay Terminal and taxis is needed.
- Maps and destination guide displays are needed within the ferry building, providing comprehensive information about connection and destination possibilities.
- Existing wayfinding signage to ferry gates needs greater visual impact.
- Ferry gate identification is generic and needs to be more destination specific.
- On-street pedestrian directional signage between the ferry building and Embarcadero Station is needed.
- Clearer directions to nearby MUNI bus stops are needed.
- The entrance to the Embarcadero Station on the west side of Market Street needs to be identified.
- Exit directional signage within Embarcadero Station needs to identify the connection services available via each exit.
- Existing regional transit displays within the Embarcadero Station are merely a collection of existing agency route maps. These displays need to be reorganized and designed to emphasize transit connections/nearby bus stops so as to be simpler to use and easier to understand.
- Stronger differentiation between the MUNI and BART entrances within the Embarcadero Station is needed – perhaps use of logos.
- Clear identification signage is needed on platforms to indicate where to board BART and MUNI trains.

Ferry Terminal Informational Sign


MUNI F Line Stop @ Ferry Terminal

The signage at the Ferry Terminal/Embarcadero Station consists of a variety of uncoordinated styles and standards. Existing signage within or between these facilities may be characterized as minimal, lost within the urban streetscape, or non-existent. A study has been commissioned to recommend a wayfinding signage program for the Ferry Terminal complex. The preliminary study recommends inclusion of connecting transportation/destination information on signs. Connectivity informational needs can be met primarily by additional on-street pedestrian signage in combination with replacement of existing directional signage at the facilities and modification of existing regional transit displays at Embarcadero Station. It would also require an unprecedented level of cooperation among the agencies responsible for the signage within and among these facilities – Golden Gate Transit, the City of San Francisco, MUNI, and BART.

San Jose Diridon Station is an urban station with commuter rail, intercity rail, LRT, and multiple-agency local bus service with off-street boarding. The types of connectivity informational needs at this hub (and others like it) include:

- Clearer directions from the waiting area to the platforms.
- A positive indication of the passageways leading to the platforms, as well as real-time identification of the train and departure time.
- Clearer identification of the station name.
- Clearer directions to the connecting bus stops.
- Larger, bolder signage identifying the free downtown shuttle.
- The regional transit information displays, including maps, need to be better organized and designed to be easier to understand.

Embarcadero Station - Connector Displays

Amtrak
BUS STOP

Diridon Station Amtrak Bus Stop

Diridon Station Platform Signage

4.4 WAYFINDING SIGNAGE CUSTOMER RESEARCH FINDINGS

To supplement the study team's perceptions of connectivity needs and deficiencies at the prototype hubs, the experience of the regular user and non-transit user was investigated by MIG, Inc. The regular users of each prototype hub participated in focus group sessions. Non-users were requested to record their experience of making a transit trip requiring a connection in travel diaries. A complete description of the findings is contained in Task 5.

Customer research findings provided by the focus groups and travel diaries are valuable for the following reasons:

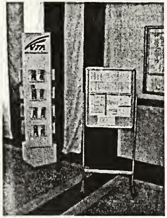
- To gain insight into the problems and deficiencies encountered by new and unfamiliar transit passengers.
- To learn what could be improved to make the transit connection experience easier.
- To devise recommendations for improvements to signage and graphics, resulting from the observations and suggestions of the focus groups.
- To discern ways to promote smooth transit connections among the various transit services available.

4.4.1 Regular Transit User Connectivity Information Needs

Based on comments of focus group participants, the following summary of connectivity information needs have been identified for regular transit users:

- Provide up-to-date, comprehensive information displays, including service route maps and schedules, to replace displays with incomplete or outdated information. Provide new or rehabilitated display cases to replace old, dirty, and dilapidated cases. Make the maps and schedules larger and easier to read.
- Locate map/schedule displays more strategically, where they will be easily noticed by passengers. Graphics should be bold enough to attract attention to the display.
- Install a greater number of schedule displays, above and below ground (if applicable). Riders would benefit from knowing when the transit is due to arrive, prior to entering the station or paid area. This would enable a passenger to run an errand, if time allowed, rather than waiting for a long period in the station.
- Provide more local area maps, containing more useful information, such as nearby places of interest and local services.

San Rafael Information Display



Diridon Schedule Display

CALTRAIN Station Display

- Make schedules easier to read, using shading or grids to enable the viewer to read across rows. Display schedule information and route maps at every transit stop. Printed schedules should also be available.
- Select optimum locations for signs, considering sight lines and circulation paths. Organize signs logically. Repeat messages on signs more frequently in larger stations.
- Use bolder, more colorful signage to increase visibility; dark and drab signs do not attract attention and are more difficult to read. Possibly add standard international symbols to reinforce messages.
- Add signs to designate which track to use, direction of travel for each platform, and where to wait. Many survey respondents noted the current absence of such signs, and the resultant confusion.
- Include multilingual messages on schedules and key signs, to reach a greater number of passengers.

Diridon Station Platform Signage

4.4.2 Non-transit User Connectivity Information Needs

For non-transit users have additional information needs, since they are unfamiliar with riding transit and the connection process.

- Make printed schedules and maps easily available.
- Provide information about transfers - how they work, and how/where to buy them.
- Use clearer signage to indicate where to wait - what side of station, which platform (to avoid missed connections).
- Use consistent, repetitive signage for reinforcement. This may avoid the necessity of asking transit personnel or other passengers for information.
- Provide clearer exit signs from stations, denoting possible transit connections accessible from each exit.

ALL OUTBOUND
METRO TRAINS
MUNI Metro Real Time Display

4.4.3 Real-time Information

Participants in all five regular transit user focus groups requested real-time displays with complete operator information for each station. They also suggested that, in addition to the actual boarding point, displays would be most effective if placed outside of the paid area.

For non-transit users involved in this study, who were not on a specific work-related timetable or for non-users, who have more time at their disposal for making a trip, real-time displays were less important because they were more concerned with making sure they found their connecting service and where to wait than with the actual time of arrival.

Both groups felt that real-time displays were less important when frequent service is scheduled.

Embarcadero MUNI Metro Info Kiosk

4.4.4 Wayfinding Signage Focus Group Sessions – Improvement Concepts Tested

Based upon the study team analysis of connectivity informational needs and comments obtained from the public during the initial focus group sessions, recommended concepts for improving the connectivity wayfinding signage were developed. These concepts focused upon the most relevant types of signs customers refer to (for connectivity) at their transit station:

- Signs identifying the station and transit operators.
- Directional signage for moving around or entering and exiting the station.
- Signs that identify where to board or wait for transit.
- Signs providing orientation to your surroundings beyond the station.
- Real-time transit signs.

Embarcadero Exit Signage

Signage concepts for improving signage or opportunities to promote connectivity were tested by focus groups using PhotoShop simulations of the before and after appearance of the signage at the prototype hub stations. In general, reaction to the concepts was positive and constructive suggestions were made to further improve the concepts. These concepts are illustrated in Appendix A as graphic examples of the wayfinding signage guidelines description. A complete description of the reaction to these concepts (which illustrate the proposed guidelines) is contained in Task 5.

San Rafael Platform Signage

4.4.5 Focus Group Sessions – Impact upon Signage

A complete and detailed description of the comments and findings of all focus groups is contained in a separate report and submittal. In general, there was expressed a desire for the following wayfinding signage improvements.

- Transit users and non-transit users expressed a desire for more frequent directional signs to help them locate the agency, stop location, and to navigate through and beyond the facilities to their connections. The guidelines response is to recommend methods of providing better directions (at stations and on urban streets) to connection stops. Also, the next sign should always be visible beyond the current sign they are reading.
- Many transit users were unaware of the presence of existing wayfinding signage, as it "blended into" the environment. Another comment was that connections information looked the same as all other directional information in a monotone signage system. The guideline response is to make connections wayfinding signage more conspicuous and distinctive, utilizing a yellow background to symbolize connections information.

- Transit users and non-transit users expressed a desire for "area maps" that provide information about where I am relative to my surroundings and what is outside the station. The existing map displays at the hubs are either too complex to read or too difficult to understand where connecting services are located. The guidelines response is to propose simplified area maps, with localized area and transit connection services, with a focus upon making connections. These maps and their information are unique to each station.
- Transit users expressed a desire for more "real time" signage so that they could estimate the urgency of getting to the station platform or their stop. The guidelines response is to recommend more real-time signs, particularly outside of the paid area, and whenever feasible, use a countdown display.
- Non-transit users expressed a desire for more obvious and clear identification of stops and station entrances, as critical to their wayfinding. The guidelines response is to recommend methods.

4.5 RECOMMENDED WAYFINDING SIGNAGE IMPLEMENTATION PRIORITIES

Based upon review and analysis of the prototype hub and customer research findings, the following is a prioritized list of the wayfinding signage improvements, which would enhance connectivity among existing and potential customers. These improvements address certain common wayfinding/signage deficiencies and problems regardless of the type of interagency or intra-agency service connections or hub physical conditions.

4.5.1 Better, Easy to Understand Transit Connector Displays at Hubs are Needed

Most displays contain a collection of existing printed maps, schedules, and information about individual services, which the customer has to figure out. Generally the displays are maps that show a macro view, whereas the customer's wayfinding needs are more for localized destinations. Consideration should be given to the design development of prototypical components for the presentation of information, guidance that responds to the customer's wayfinding needs, and what opportunities are available at each hub.

WHAT service do I use for the connection to reach my destination?

WHERE do I find the stop?

HOW do I pay for the connecting service, when, and how much will it cost?

WHEN does the connecting service arrive?

These questions are basic information needs of all transit users and critical for trips requiring connections. You have to decide where you are going and how you will get there and where the connection points are (maps) – that is the first step in wayfinding. Better localized area maps were one of the information aids requested by focus groups to improve their connections wayfinding.

The form of this information may vary among the hubs as their transit connection wayfinding needs vary. The information may be in the form of a destination locator matrix or a simplified local area map having nearby bus stops/routes shown with alphabetized listing of points of interest and trip generators (Figure 4.5-1). In the Ferry Terminal/Embarcadero hub, a special Visitor's Transit Map may be appropriate for indicating not only an alphabetized listing of trip generators, including hotels, but also the MUNI routes serving those destinations. These information aids must be easy to update and economical to produce.

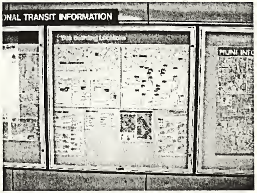


Figure 4.5-1
Proposed Embarcadero Station Bus Boarding Locations

4.5.2 Better Directions to Bus Boarding Areas upon Exiting the Hub Station Are Needed

In the suburban BART stations, better guidance to the respective connection bus stops would be helpful (Figure 4.5-2). While some stations, e.g., BART Del Norte, have diagrams (with magnetic strips identifying bus stops), they are weak and the customers may find it difficult to orient themselves to the outside configuration of the bus bay/stops. Easy-to-change directional signs are required, added to existing sign locations.

The problem of finding the connecting bus stop is much more complex in an urban setting, where the bus stop location is not always obvious and blends into the streetscape. Here the customer is primarily dependent upon wayfinding signage.

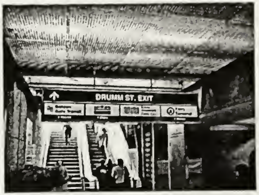


Figure 4.5-2
Proposed Embarcadero Station exit directions - use of logos to reinforce directions to services

4.5.3 Better Printed Mapping is Needed that Emphasizes Connection Possibilities

There are many existing maps now displayed at hubs and in printed form for pre-trip information. Depending upon their destination, and combination of services required to reach their destination, a customer may need to reference two or three map sources. A new MTC system map/visitor's guide, along with 511 and web site that disseminate comprehensive regional transit information for all agencies and modes, would be more useful among. If there were more systematic coordination of connection information among the transit services, it would establish a cohesive network of connection information.

4.5.4 Better Identification of the Hub Facility is Needed

Better hub facility identification should improve connection wayfinding by making the entrance to the service (via pedestrian or vehicle) more conspicuous and promoting awareness of the presence of transit within the community or urban setting. The use of the service logos, BART, MUNI, Golden Gate, ACTransit, etc., would reinforce the branding and identity of each service (Figure 4.5-3). Entrance signs could incorporate the localized bus service under the heading of the primary regional transit service at each hub – to promote awareness of multiple transit services available at some hubs.

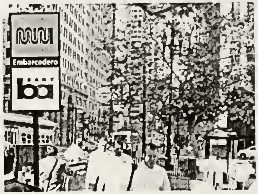


Figure 4.5-3
Proposed Embarcadero Station entrance identification

4.5.5 Better Identification of Bus Stops is Needed

The use of service logos and colors would help distinguish various bus services at hubs and in downtown San Francisco. In this way, the bus stop signs will reinforce the vehicle identification and service identity colors making them easier to find. This principle of wayfinding has been successfully utilized in the corporate and commercial field for years, e.g., rental car companies often use their logos on airport wayfinding signage.

4.5.6 Better Wayfinding Signage within Hubs is Needed

One way to make the transferring experience less confusing is to simply provide better wayfinding signage within the hub to the service choices available. This need is particularly important in the Embarcadero station to provide better guidance to and between the BART and MUNI entrances and exits from the station. The use of service logos would be helpful instead of the generic messages on the signs.

At the San Rafael Transit Center, better directional signage between the platforms is needed to guide transferring passengers to the correct platform and route (Figure 4.5-4).

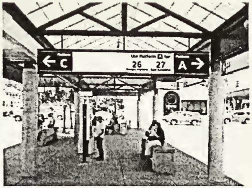


Figure 4.5-4
San Rafael Bus Tranfer Center proposed bus boarding identification Northbound & Southbound Routes 26 & 27 board on different platforms

4.5.7 Better "Real-time" Information Displays are Needed

The use of "real time" displays is a trend that is continuing because customers appreciate the information these displays provide, as well as reducing the anxiety of the unknown. Real-time displays should be located directly outside the paid station area, to enable decision-making prior to entering. Real-time displays within the station could tell passengers which platform their train is boarding on (Figure 4.5-5).

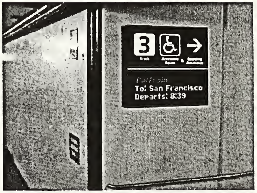


Figure 4.5-5
Proposed Rail Station directions to platform

Also, uniform presentation and frequency of how the information is displayed would be more helpful. Amber color is the most legible, and customers would prefer a continuous update of information as opposed to intermittent updates, like those provided on BART signs.

4.5.8 Better Interagency Cooperation of Signage Maintenance

Many of the displays at stations utilize maps and other information provided by connecting services agencies as a convenience for customers using these facilities. For example, many BART stations have information about local and regional feeder bus services, and on-site bus stop signs are provided by the bus service. It is acknowledged that there are institutional/ongoing maintenance issues that will have an impact upon implementing recommendations.

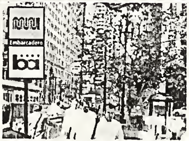
The matrix depicted on the following page summarizes the most significant and level of importance of connectivity informational needs among the five prototype hubs. That is, with a limited budget available for a regional wayfinding program and each hub, what improvement would most benefit the customers' needs.

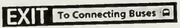
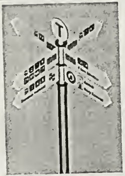
					CONNECTIVITY INFORMATION NEEDED				
Transit Hub	**County**	**Transit Modes**	**Operators**	**Type**	**Signs Identifying the Station and Transit Operators**	**Directional Signage for Moving Around or Entering and Exiting the Station**	**Signs that Identify where to Board or Wait for Transit**	**Signs Providing Orientation to Surroundings beyond the Station**	**Signs Providing Real-time Information**
Dublin Pleasanton BART	Alameda	BART, Transit Bus	BART, WHEELS, Amtrak buses, County Connection, Modesto Area Express/Max, San Joaquin Regional Transit/SMART	Suburban	②	②	②	③	●
El Cerrito Del Norte BART	Contra Costa	BART, Transit Bus	BART, AC Transit, Westcat, GGT, Vallejo	Urban	●	②	②	③	③
San Rafael Transit Center	Marin	Transit Bus, Intercity Bus, Marin Airporter	GGT, Greyhound, Marin, Sonoma Airporters	Urban	③	●	③	③	③
San Francisco Ferry Terminal & Embarcadero Station	San Francisco	BART, Ferry, Intercity Bus, LRT, Streetcar, Transit Bus	BART, GGT Bus & Ferry, MUNI Bus, LRT & Streetcar, Vallejo, Alameda & Harbor Bay Ferries, Tiburon Ferry, Amtrak, AC Transit Transbay Bus	Downtown	③	③	②	③	③
San Jose Diridon Station	Santa Clara	Commuter Rail, Amtrak, LRT, Bus	Caltrain, Capitol Corridor, Amtrak, Altamont Commuter Express (ACE), Valley Transportation Authority (VTA), Santa Clara Transit	Downtown	●	③	③	③	③

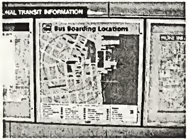
③ HIGHEST NEED ② MODERATE NEED ● LOWEST NEED

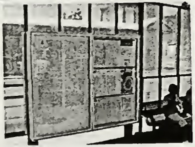
4.6 ESTIMATED COSTS FOR DESIGN, INSTALLATION, AND ONGOING MAINTENANCE

The cost estimate is organized by sign wayfinding function and program recommendations incorporating the regional wayfinding signage guidelines (Task 4, Appendix A). As the extent of application per hub and agency in-house costs are unknown at this time, costs are presented on an average unit cost basis and use of design consultant and outside contractor for production, installation, and routine maintenance. Implementation is assumed to be during 2006. This cost estimate excludes cost for approvals, permits, etc., for signs within public right-of-way. The term "replace" would include the cost of removing an existing sign. The term "add" means a new sign as there is not a sign at this location.

Wayfinding Signage Program Recommendations		Design	Production/ Installation Unit Cost	Ongoing Maintenance
4.6.1 Signs Identifying Station or Transit Operator				
San Rafael Transit Center Entrance	Add transit center identification onto existing architecture.	Preparation of construction documents ranges from **$6,000-10,000** per facility.	Cost varies per facility. Range of **$12,000-16,000** per facility.	Not required unless sign is damaged.
 Figure A-7.2 Proposed Embarcadero Station entrance identification	Add freestanding station entrance identification sign for urban rail station.	Preparation of construction documents ranges from **$4,000-6,000** per location.	Range of **$6,000-8,000**, excluding electrical per location.	**$800** annually for re-lamping or replacing ballasts for each location.

Wayfinding Signage Program Recommendations	Design	Production/ Installation Unit Cost	Ongoing Maintenance
4.6.2 Directional Signage for Moving around or Entering and Exiting the Station			
 Figure A-4.1 Proposed Embarcadero Station exit directions - use of logos to reinforce directions to services Replace existing signage face panels with face panels that emphasize connections with features that improve functionality, i.e., color coding, agency logos, bolder arrows, etc.	Preparation of construction documents depends upon quantity and nature of sign. Range is **$400-700** per sign.	Cost depends upon materials and construction of each sign and quantity. Range is **$1,000-1,800** per sign.	Update information or repair sign. Cost varies. Range is **$400-1,200** per sign.
 Figure A-4.2 - Proposed Exit Information Add signage within stations or on-site to fill in directional gaps and link signage into a cohesive connections directional system.	Preparation of construction documents depends on quantity and nature of sign. Range is **$600-800** per sign.	Cost depends upon materials and construction and conditions. Range is **$1,500-1,900** per sign.	Update information or repair sign. Cost varies. Range is **$400-1,000** per sign.
 Figure A-8.1 Proposed Urban Multi Directional Add urban multi-directional "connector locator" blade signs outside the station exits to provide on-street walking directions to nearby connection services	Preparation of construction documents depends upon quantity and conditions per location. Range is **$1,000-1,500** per sign. Utilizing an off-the-shelf APCO "Sign Point" multi-directional sign system.	Cost depends upon number of blades and quantity of signs and mounting conditions. Range is **$2,500-3,500** per sign.	Update blades or repair signs. Update blades is **$400** each. Repair is **$1,200** each.

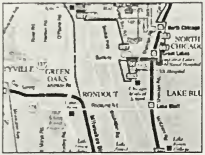
Wayfinding Signage Program Recommendations		Design	Production/ Installation Unit Cost	Ongoing Maintenance
4.6.3 Signs Identifying where to Board or Wait for Transit				
 Figure A-10.2 San Rafael Bus Transfer Center (view from Platform B) Proposed bus boarding identification Northbound and Southbound Route 26 & 27 board on different platforms	Add or replace bus or rail platform directional and identification signs that emphasize connections, i.e., platform/track identification, direction of travel, routes, etc.	Preparation of construction documents depends on quantity and nature of signs. Range is **$400-700** per sign.	Cost depends upon materials and construction of each sign and quantity. Range is **$1,500-1,800** per sign.	Update route information. **$300** per sign.
 Figure A-11.1 Proposed Dindon Station ID of DASH free shuttle service stop	Replace or add bus stop signs with signs that emphasize connections and improve legibility, accessibility, and functionality, i.e., bolder agency logos/colors, uniform layouts, current bus frequency, route line map, last bus listing, compliance with 2004 ADAAG Guidelines, etc.	Preparation of construction documents depends upon quantity and mounting conditions. Range is **$800-900** for design of first sign. Range of **$200-300** for each sign location thereafter.	Cost depends upon materials, quantity, and conditions at each location. Range is **$150-200** per sign to replace panel. Range is **$500-600** per sign to install post and panel.	Update route identification at **$75** per sign.
4.6.4 Signs Providing Orientation to Surroundings beyond the Station				
 Figure A-11.2 Proposed Embarcadero Station Bus Boardin Locations	Add/replace area maps at large urban hub stations that emphasize connections and provide a simplified area map with destinations/transit agency/route listing, and nearby bus stops, extensive use of agency logos, walking time rings, and other features that create awareness and provide orientation to nearby bus boarding locations	For research, preparation of master art, and printing specifications and plots. **$9,500**/map for urban areas. **$5,500**/map for suburban areas. **$700** per update.	For computer generated map plot – inkjet process with UV protection laminate. Range is **$600-900** per map, including installation by contractor. (Does not include frame.)	Updates every six months. Range is **$600-900** per map, including installation.

Wayfinding Signage Program Recommendations		Design	Production/ Installation Unit Cost	Ongoing Maintenance
	Add agency logos to identify stations and major stops on existing urban visitor maps to create awareness of services, their stops, geographic relationship, and reinforce on-street identification signage.	Varies per map type and nature of master art. Range is **$900-1,500** per map.	For computer generated map – inkjet. Range is **$500-800** per map, including installation.	Update every six months. Range is **$500-800** per map, including installation.
Matrix to be designed.	Add destination locator matrix signs at large hub stations that provide a comprehensive alphabet-types destination listing similar to destination-to-destination mileage charts on highway maps where the destinations intersect the matrix the transit services connecting the two are located.	For research, preparation of master art and printing specifications, and plots. **$6,500** per matrix for urban areas. **$5,500** per matrix for suburban areas.	For computer generated inkjet plot with UV laminate protection. The range is **$600-900** per matrix, including installation plus **$2,200** for new frame.	Update every six months. Range is **$600-900** per matrix, including installation.
 San Rafael Maps and Schedules	Organize existing maps, schedules, and fare information at stations to be more focused upon localized transit connection service stops within a reasonable walking distance.	For research and development of graphic layouts and new materials. The range is **$4,500-6,500** for urban hubs. The range is **$3,500-5,500** for suburban hubs.	Printing of new materials and reorganization of information within existing displays. The range is **$1,500-2,000** per station.	Update every six months of printed materials/ replacement of faded materials. Range is **$500-800** per station.

Wayfinding Signage Program Recommendations		Design	Production/ Installation Unit Cost	Ongoing Maintenance
	Add/update freestanding kiosk display panels to provide better information on how to use the services, schedules, fares, and making connections.	For research and development of kiosk panel configuration. The range is **$3,500-4,500** for urban hubs. The range is **$2,500-3,500** for suburban hubs.	Printing of new display posters and other graphic materials and reconfigure kiosk panels. The range is **$5,000-6,000** per kiosk.	Update every six months of posters and other graphic materials. The range is **$300-500** per kiosk.

4.6.5 Real-time Transit Signs

 Figure A-13.1 Proposed Dixon Rail Station directions to platform	Add real-time signage at multi-agency transit facilities to indicate service agency, destination of train (or bus) level of service, and actual or countdown (if feasible) departure time.	For planning, design, engineering and specifications, and testing. The range is **$10,000-12,000** for the first sign and **$4,000** per sign thereafter.	For production/ interface with system control and testing. The range is **$18,000** per sign, excluding electrical/ communications service to sign.	For technical support, contract budget **2 percent of capitol cost** for first five years of operation.
Next Train To Daly City/SF 2 MIN. Figure A-13.2 Proposed Dublin/Pleasanton BART Station Real Time train information at entry lobby	Replace real-time signage at single agency rail stations, or add outside paid area, indicating next train(s)' destination and departure time in countdown mode using amber LED technology for maximum legibility under all lighting conditions.	For planning, design coordination, engineering specifications, and testing. The range is **$10,000-12,000** for first sign and **$2,500** per sign thereafter.	For production, replacement of existing signs, software interface, and testing. The range is **$25,000** per sign, excluding any additional electrical and communications service required.	For technical support, contract budget **2 percent of capitol cost** for first five years of operation.

Wayfinding Signage Program Recommendations	Design	Production/ Installation Unit Cost	Ongoing Maintenance
4.6.6 Printed Mapping for Pre-trip Planning			
 Produce new MTC system map/visitor's guide that disseminates comprehensive regional transit information for all agencies and modes. The major hub connection points should be emphasized. This map would enable customers to determine the combination of services required to reach their destination and where the transfer points are located. The Chicago Regional Transportation Authority, MTC's counterpart, publishes an excellent regional transit printed map indicating Metra, CTA, and PACE regional and city commuter rail, rapid rail, city and suburban bus routes and major transfer points. The map would be regional on one side with a downtown enlargement on the other side. Versions of the map could be posted in frames at key hub stations replacing the collection (somewhat disorganized) of regional connections individual maps.	For research, development of base mapping, text graphic design, master art, and printing specifications, including coordination and reviews by MTC and each agency. The range is **$35,000-40,000** as the initial investment.	For a 32" x 32" folded printed map, four-color process, budget **$60,000** for 50,000 maps or **$70,000** for 100,000 maps. For a 44' x 44" computer generated version for stations, budget **$900** for each map with unique "Your Are Here" indicator. Add **$2,500** if a new map frame is required.	Updates every six months. The range is **$700-900**, including installation.

4.7 ADMINISTRATIVE/MAINTENANCE RESPONSIBILITES

(To be completed following TAC and agency review of regional wayfinding program and guidelines.)

MTC TRANSIT CONNECTIVITY STUDY

TECHNICAL MEMORANDUM 4
Proposed Regional Wayfinding Signage Program

APPENDIX A

REGIONAL WAYFINDING SIGNAGE GUIDELINES

APPENDIX A - REGIONAL WAYFINDING SIGNAGE GUIDELINES

The findings from the review of the five prototype hubs, existing agencies' signage standards and focus group general comments and reaction to concepts for improving connectivity wayfinding, and the consultant's empirical knowledge serve as the basis for the development of the Regional Wayfinding Signage Guidelines. The guidelines are categorized by five types of wayfinding informational needs and visually expressed by the associated visual simulations of proposed design concepts at the prototype hubs. Graphic design, basic architectural, and placement guidelines are incorporated into the guidelines.

The wayfinding signage guidelines are organized into three interrelated parts to be a flexible and working document. Like the wayfinding process, these parts flow from the general to the specific.

1. **Principles for a regional wayfinding signage program** serve as the underlying wayfinding principles and philosophy for the program.
2. **General sign guidelines** define those common sign planning and design elements that apply throughout the program, e.g., location, terminology, symbols, color and function, coordination with existing signage, lighting, contract, ADA, etc.
3. **Proposed sign types** address specific functional information needs that customers have, e.g., where to board or wait for transit, etc., and serve as the application guidelines for the wayfinding program.

General Sign Guidelines

Application of these common planning and design guidelines will, despite different appearances of signs, contribute to a consistent and uniform wayfinding strategy.

Scope

These wayfinding signage guidelines apply to the connectivity wayfinding signage at the 21 (and beyond) regional transit hubs where a high frequency of transfers occurs.

- Existing signs affected at facilities
- New signs proposed at facilities
- New signs proposed between facilities

These guidelines also apply to the agencies that are responsible for the existing signage at these 21 regional transit hubs.

These guidelines, with further planning and design development, serve as a tool to implement a regional wayfinding program. Note that there is a difference between “standards” (i.e., mandated or required) versus “guidelines” (i.e., recommended or “best practice”) used in this project.

The guidelines will not:

- Address unique signage problems, e.g., retrofitting existing signs
- Show where signs should be located on a plan
- Describe the solutions to complex problems, e.g., Ferry Terminal complex
- Address specific planning and wayfinding issues except for the visual simulations of certain conditions at the hubs
- Address specific signage projects or implementation issues

Connectivity Information Placement

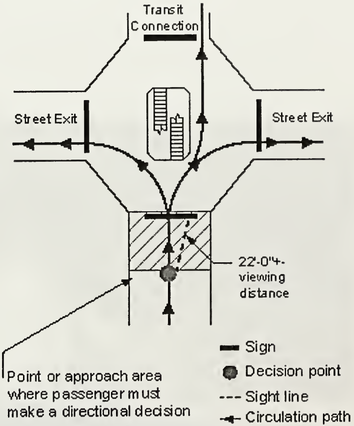
Connectivity information shall be provided in advance of decision points to enable the user to understand what is necessary to navigate each segment of the trip, i.e., when entering, exiting, or between facilities.

Connectivity Information Content

The presentation (content and format) of the connectivity information should be appropriate for the immediate wayfinding decision (e.g., first lead one to exit the station, then provide information about connection possibilities:

- What service do I use for the connection I need to reach my destination?
- Where do I find the nearest appropriate stop?
- How do I pay for the connecting service, when, and how much will it cost?
- When does the connecting service arrive?),

and provide guidance that responds to the customers’ connectivity wayfinding needs and opportunities specific to each hub.



Connectivity Information Integration

Rather than introduce a new layer of signage, connectivity information shall be integrated as much as possible with existing wayfinding signage. Revise existing sign panels, or add new signs coordinated in appearance with existing signs or displays. New sign locations shall be added whenever there is an obvious gap in the information flow.

Sign Architectural Interface

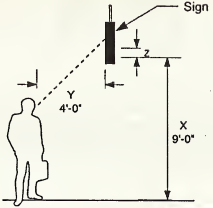
Where new signs are added, they shall be mounted to existing structures or attached to surfaces per standards applicable for each facility in the most economical manner in keeping with sound engineering practice. All existing sign modifications or additions shall be subject to the approval of the agency with jurisdiction over the facility or location.

Sign Visibility

Signs shall be positioned for maximum visibility along the customer's sightline and according to functional information being presented. If possible, directional and identification signs with simple messages should be overhead. Maps and transit informational signs with detailed graphics and text should be at eye level. Whenever possible, overhead signs should maintain 9'-0" clearance beneath to protect from vandalism.

Sign Frequency

Signs should be located at or slightly in advance of the decision point, allowing the user time to assimilate, process, and make a decision as to which way to go before the decision point. Except where the direction to walk is obvious, or no choice exists, the next directional sign beyond should be visible.



Equation

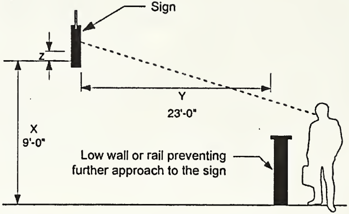
X= sign height

Y= distance to sign

Z= cap height

Example #1 of sign location cap height

X= 9'-0" (108")   Y= 4'-0" (48")   Z= (2" cap height)



Example #2 of sign location cap height

X= 9'-0" (99")   Y= 15'-0" (48")   Z = (3" cap height)

Connecting Services at Exits

At each facility exit, the connecting services accessible via that exit should be identified, along with the destinations they serve (Figure A-4.1).

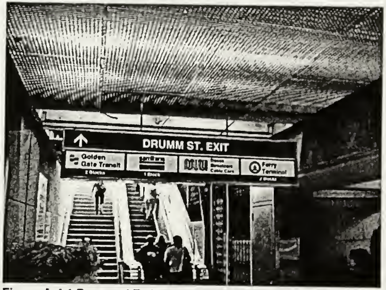


Figure A-4.1 Proposed Embarcadero Station exit directions - use of logos to reinforce directions to services

Coordination with Pre-trip Information

The presentation of connectivity information on "en route" signage should be coordinated with pre-trip information obtained through the 511 service, Internet, telephone, and printed information aids, i.e., maps, schedules, guides, etc. The same identification terminology shall be used on signs as well as other pre-trip information sources.

Maintenance

The presentation of connectivity information added to signs shall be easily changed; use of computer-generated graphics, overlays, and appliqués, is recommended. Modular graphic layout, whereby only a section of the sign is replaced, is also recommended.

Terminology

The heading of the existing regional transit information displays should be changed to "connecting transit information" which more clearly connotes the purpose of the displays.

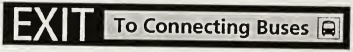


Figure A-4.2 - Proposed Exit Information

Exit Information

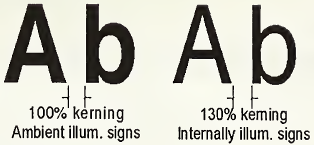
When exiting the paid area from the rail stations, more descriptive connecting services should be associated with the term "exit", e.g., exit to connecting buses or taxis or shuttle buses, which promotes the other modes of connecting transit (Figure A-4.2).

Typography

The typography used for connectivity messages shall match the typography used within the current signage at each facility. If more than one typography style is on existing signs, use the most legible font.

Letter/Line/Word Spacing

The letter/line/word spacing of connectivity messages shall match existing messages as much as possible. Ambient-illuminated signs use 100 percent (normal) and internally-illuminated signs use 130 percent (wide) to maximize legibility.



Case

Connectivity message case should match existing sign messages as much as possible – upper case or upper and lower case.

Language

Connectivity directional and identification messages shall be primarily in English, supplemented with graphic symbols to promote universal understanding, because most are proper names, e.g., street name, or agency, and do not translate.

Language – General Information

General information describing how to use the service could be multilingual, based upon the predominant languages used in the San Francisco area. Or, the information could be displayed in English and Spanish only, since there are numerous languages and limited space available.

Agency Logos

Agency logos should be used extensively on directional signage and maps to reinforce and distinguish the identity of each agency for stops and service information. Where an agency operates more than one mode of service, e.g., Golden Gate operates ferries and buses or MUNI which operates Muni Metro, on-street buses and streetcars, and cable cars, the generic DOT pictograms should be used when space allows to distinguish these modes under the heading of the agency logo.

Arrows

Except for the BART arrow, arrow styles shall match existing signs at the facility and shall be in proportion to the message size. Arrows should "pull", not push, a sign message for better comprehension (TCRP Report 12, p. 29, and MUTCD p.2D-15). A bolder, more visible arrow stroke is recommended for BART (Figures A-6.1 and A-6.2).

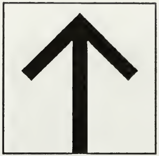


Figure A-6.1
Existing BART Arrow

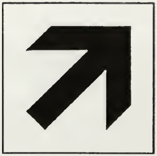


Figure A-6.2
Recommended
BART Arrow

Color Coding

Station exiting information about connectivity should have a consistent color background to facilitate rapid recognition and distinction. Yellow with black text is recommended as being highly conspicuous and symbolize connections information.

Illumination

Whenever possible, new or modified signs should be located so as to be legible under all lighting conditions. Either a minimum of 30 foot candles of light on the sign face or internal illumination of messages is recommended.

Contrast and Finish

Messages shall contrast with background to maximize legibility. A minimum ratio of 70 percent, per 1991 ADA guidelines, is recommended (Figure A-6.3). Signs shall have a low glare finish.

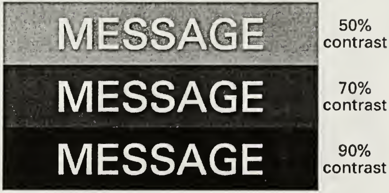


Figure A-6.3
Contrast Ratios

Message Size

Viewing distance should determine the minimum character height (Figure A-6.4). In general, for persons with normal visual acuity, 1" of cap height equals approximately 30' of readability, given adequate contrast and illumination.

Distance (Ft.)	7.5	15	22.5	30	37.5	45	60	75	90	105	120	150	180
Cap Letter Ht. (In.)	.25	.5	.75	1	1.25	1.5	2	2.5	3	3.5	4	5	6

Figure A-6.4
Message Size

Americans with Disabilities Act

As much as practicable, new signs added shall comply with the 2004 ADA Guidelines for Signage (Section 703) and Transportation (Section 810). Appendices B and C contain excerpts from these guidelines.

Elevator Identification

Elevators and other accessible routes should identify the connecting transit services that could be ultimately reached.

Form of Wayfinding Signs

The form of the wayfinding signs, incorporating these general guidelines, may be customized (or vary in appearance) depending upon the site-specific circumstances.

Proposed Sign Types

Each facility has certain wayfinding issues associated with its use and making a connection, which can be addressed through certain types of signs. The following sign types cover these issues.

Signs Identifying Station and Transit Operator

Facility Identification

The name of the facility or function of the facility should be visible from all approaches (Figure A-7.1).

Facility Name

All station identification signs should include the station name to reinforce the information on maps, schedules, and other printed aids, and to enable patrons to relate to verbal directions (Figure A-7.2).

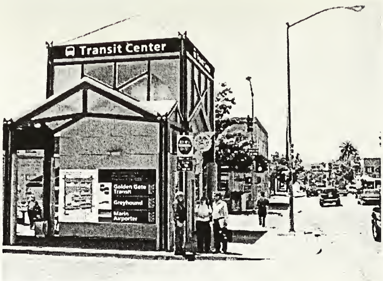


Figure A-7.1
Proposed San Rafael Transit Center identification

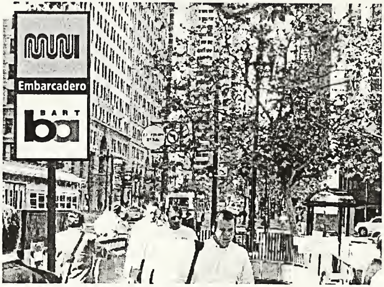


Figure A-7.2
Proposed Embarcadero Station entrance identification

Directional Signage for Moving around or Entering and Exiting the Station

Agency Name Reinforcement/Logos Directions to Services

At BART/MUNI downtown stations, turnstile level street exit directional signs should also include connecting agency names and logos.

Arrow Relation to Message

For clarity, arrows should be closely associated with their respective messages.

Sign Sightlines

Directional signs should be mounted no higher than 9' to the bottom of signs so as to remain within the patron's cone of vision sightline.

Urban Directions

Where the connecting transit service is not immediately outside the station exit, provide guidance as to on-street walking direction and distance. The disc on the top of the pole would incorporate a regional transit connections logo.(Figure A-8.1).

Functional Information

As much as possible, connectivity information should be grouped on signs by function, e.g., directional, identification, etc.

Simplicity

Connectivity information should be simple and concise, with easily understood terms.

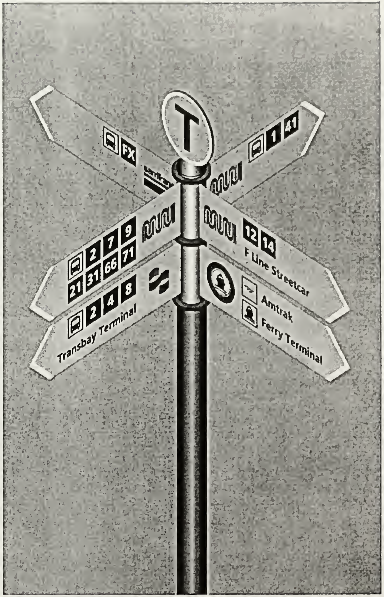


Figure A-8.1
Proposed Urban Multi-Directional
"Connector Locator"

Grouping of Information

Vital connection information should be grouped together, e.g., specific routes should be incorporated into the overhead entry signage at the turnstiles at the MUNI Metro: J, K, L, M, and N at Embarcadero Station.

Architectural Interface

As much as possible, new directional signs should be mounted on existing architectural structures, e.g., canopies, beams, columns, or sign posts.

Confirmation of Connection

In commuter rail stations with multiple track and agency train service, provide confirmation of agency, destination, and real-time departure associated with track/platform directions (Figure A-9.1).

Hierarchy of Information

Directional signs should list a hierarchy of information of the most popular/expeditious connection possibilities from that point, e.g., from the Embarcadero Station, connect to the Cable Car lines to reach Fisherman's Wharf.

Color Coding

For exiting connection information, the message shall be black on yellow background with associated agency logo in color (Figure A-9.2).

Directions of Services

Directions to services should include the agency logos associated with the agency names (Figure A-9.1).

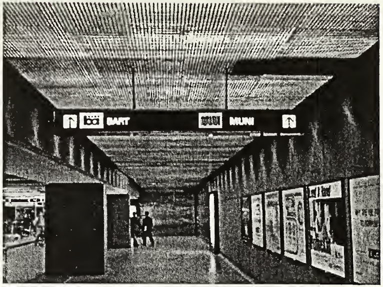


Figure A-9.1
Proposed Embarcadero Station Transit Service directional signage

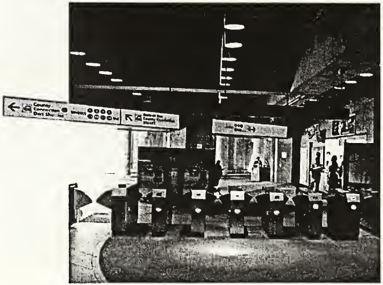


Figure A-9.2
Proposed Dublin/Pleasanton BART Station exiting directions

Signs Identifying where to Board or Wait for Transit

Multiple Bus Boarding Platforms

At bus transfer centers with multiple bus boarding platforms, e.g., San Rafael, each platform shall be clearly and boldly identified. Color coding should be considered to distinguish the platforms (Figure A-10.1).

Platform Terminology

To avoid confusion, do not mix platform identification with route numbers/letters. Use letters rather than numbers to identify platforms.

Boarding Sign Information

Where a bus route utilizes both sides of a platform for different off-street stop locations, the route number, name and route terminus, e.g., a place name, should be identified.

Boarding Identification/Direction of Travel or Off-street Stop Locations

Where a particular bus route utilizes different platforms for opposite directions of travel, directional signage for the platform, route number, name and route terminus, e.g., a place name, should be provided (Figure A-10.2).

Platform Track Identification

On commuter rail station platforms, the track identification number should be large and bold. The service agency, destination, number and "real time" of departure should be associated with the track identification number.

Bus Stop Sign Identification

On bus boarding stop signs, agency logos and colors should be large and bold to distinguish between multiple transit operators at the facility. Uniformity of bus stop sign layout should be considered. Accessibility and parking restrictions should be auxiliary signs placed below the basic bus stop sign.

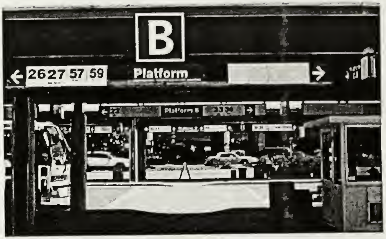


Figure A-10.1
Proposed San Rafael Bus Transfer Center-typical platform ID

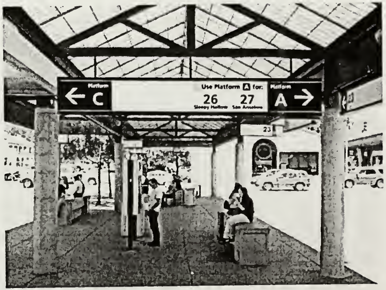


Figure A-10.2
San Rafael Bus Transfer Center (view from Platform B)
Proposed bus boarding identification Northbound and Southbound Route 26 & 27 board on different platforms

Bus Stop Schedule Information

At each off-street bus stop, a current bus frequency schedule with last bus listing and route line map should be included at eye level, using an easily changeable display.

Americans with Disabilities Act

To the maximum extent practicable, bus route identification on bus stop signs should comply with 2004 ADAAG Guidelines – minimum 2" route number character height. Refer to Appendix B for Transportation (Section 810) (Figure A-11.1).

Signs Providing Orientation to Surroundings beyond the Station

Localized Transit Information

Maps, schedules and fare information should be organized and focused upon localized transit connection service stops within a reasonable walking distance.

Destination Locator Matrix

At large hub stations, e.g., Embarcadero, Montgomery Street, Transbay Terminal, etc., provide a comprehensive alphabetized destination locator matrix listing as the first step in identifying what transit service(s) to use from that station. This locator matrix would be similar to destination-to-destination mileage charts on highway maps. Where the destinations intersect on the matrix, the transit services connecting the two are identified.

Area Map

At large urban hub stations, provide a localized, simplified area map with destinations, geographical landmarks, and nearby bus stops where connections are made (Figure A-11.2). An itemized list of popular local and regional destinations with agency logo and route numbers serving those destinations should be below the map (Figure A-12.2).

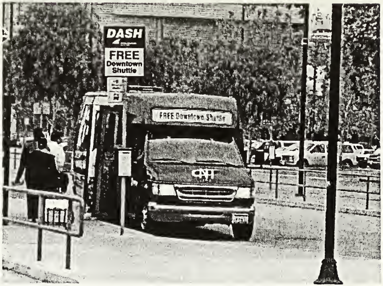


Figure A-11.1
Proposed Diridon Station ID of DASH free shuttle service stop

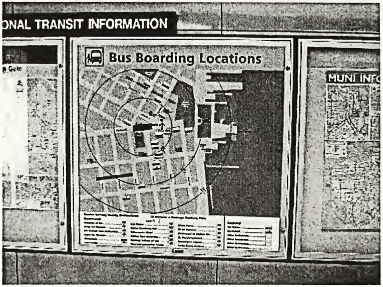


Figure A-11.2
Proposed Embarcadero Station Bus Boardin Locations

Area Map Location

Area maps should be located near the station exit(s) along the main traffic path.

"You are here" Indicator

Area and system maps should always have a bold "You are here" indicator. An arrow is recommended because it can show the viewer's orientation (Figure A-12.1).

Connectivity Color Coding

All map displays shall have a header with yellow background and black copy, which relates to connectivity directional signage.

Walking/Time Distances

Area maps shall have walking/time distance rings surrounding the station which helps focus attention on the "You are here" indicator.

Agency Identity Reinforcement

On existing maps, e.g., downtown map at Ferry Terminal, the agency logo should also be used to identify stations, because it creates awareness of the service and reinforces the on-street station identification sign.

Area Map Orientation

As much as possible, local area maps should be oriented so that the viewer is at the 6 o'clock position.

Kiosks

Freestanding kiosks should provide information on how to use the transit service, schedules, fares, and service announcements. Where multiple transit services are represented, each panel shall be dedicated to a single agency for clarity.

Real-time Transit Signs

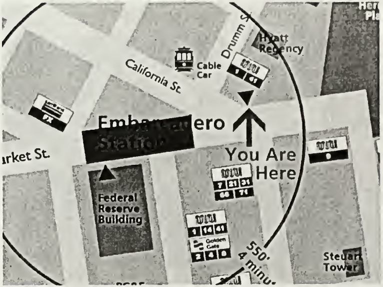

rket St.
California St.
Cable Car
Drumm St.
Hyatt Regency
Emb ero Station
You Are Here
Federal Reserve Building
550' 4 minu.
Steuart Tower

Figure A-12.1
Identify on map MUNI Bus Stop (Drumm St.) serving Chinatown (close-up)

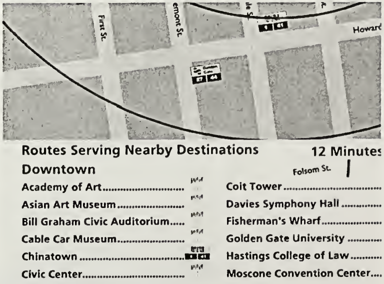

First St.
emont St.
Howard
Routes Serving Nearby Destinations
12 Minutes
Folsom St.
Downtown
Academy of Art
Asian Art Museum
Bill Graham Civic Auditorium
Cable Car Museum
Chinatown
Civic Center
Coit Tower
Davies Symphony Hall
Fisherman's Wharf
Golden Gate University
Hastings College of Law
Moscone Convention Center

Figure A-12.2
Identify transit serving Chinatown (close-up)

Multi-agency Transit Facilities

At multi-agency transit facilities, real-time signage should indicate the service agency, destination of the train (or bus) level of service, e.g., Bullet Train, and actual departure time. The time displayed should be, if feasible, a countdown of the actual departure time or estimated clock departure time (Figure A-13.1).

Single-agency Transit Facilities

At single-agency transit facilities, real-time signage should indicate the route number, direction of travel/destination of the train (or bus) and actual departure time to verify correct platform/boarding stop.

Real-time Sign Location

Real-time signs should be located at station or transit center entrances outside the paid area to aid passengers in determining how much, or little, time they have to make their connection.

Countdown Display Method

Whenever technologically feasible and credible, real-time displays should express the departure time as a countdown mode – 4 minutes, 3 minutes, etc., because users' timepieces may not agree with system clock time (Figure A-13.2).

Display Technology

Real-time signs should utilize daylight readable amber Light Emitting Diode (LED) technology – full matrix displays, which are proven to be the most legible under all lighting conditions. Research by TCHRP recommends amber as the most legible color with best contrast under all ambient-lighting conditions.

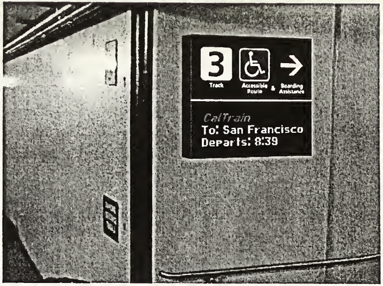


Figure A-13.1
Proposed Diridon Rail Station directions to platform

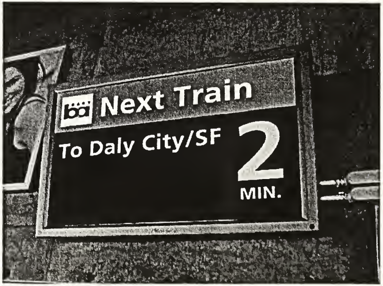


Figure A-13.2
Proposed Dublin/Pleasanton BART Station Real Time train information at entry lobby

Display Configuration

Real-time messages should, as much as possible, be displayed as one-page messages – two lines are recommended. When messages require more than two lines, a scroll-up sequence is recommended, holding one line while adding a second for message continuity. Figure A-13.2 depicts an example of a terminus station; intermediate stations would display multiple directions and lines.

MTC TRANSIT CONNECTIVITY STUDY

TECHNICAL MEMORANDUM 4
Proposed Regional Wayfinding Signage Program

APPENDIX B

2004 ADA/ABA GUIDELINES BRIEF SUMMARY OF REQUIREMENTS OF KEY ITEMS

2004 ADA / ABA GUIDELINES
Brief Summary of Requirements on Key Items

- Signs for Door Identification must be located on latch side (703.4.2). If the door is double, place on right side. Braille must be located below text, no less than 3/8" from any other tactile characters and from raised borders. (703.3) Tactile letters on signs will have their *baseline* between 48 and 60 inches above finish floor (703.4.1)
- Visual characters and their backgrounds shall have a non-glare finish. Characters must be either light on dark background, or vice versa. They can be uppercase, lowercase, or a combination of both. Form of characters must be conventional, neither italic, highly decorative or unusual. Character proportions must be such that the letter "O" has a *minimum width* of 55% and a *maximum width* of 110% of the height of the letter "I" (in uppercase). See 703.5.1 through 4.
- Character height and viewing distance must comply with table 703.5.5 (attached). See some table applications below:

3" letter height is good for 23 ft of viewing distance (if height is between 70" and 120")
(or for *21 ft* if height is greater than 10 ft)

4" letter height is good for 31 ft of viewing distance (if height is between 70" and 120")
(or for 29 ft if height is greater than 10 ft)

6" letter height is good for 47 ft of viewing distance (if height is between 70" and 120")
(or for 45 ft if height is greater than 10 ft)

8" letter height is good for 63 ft of viewing distance (if height is between 70" and 120")
(or for 61 ft if height is greater than 10 ft)

- Stroke thickness, measured by the letter "I" must be between 10% and 30% of the character height. Spacing between *baselines* of separate lines of characters within a message must be within 135% and 170% of the character height. Spacing between individual characters shall be between 10% and 35% of the character height. See 703.5.7 through 9.
- Pictograms or symbols must have a minimum *field* (height of the picture's background) of no less than 6 inches. Both pictogram and field must have a non-glare finish and the picture must be light against a dark field, or vice versa. Any text or descriptions must be placed below the pictogram field. See 703.6.1 and 2, and 703.7.1

Table 703.5.5 Visual Character Height

Height to Finish Floor or Ground From Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 inches (1015 mm) to less than or equal to 70 inches (1780 mm)	less than 72 inches (1830 mm)	5/8 inch (16 mm)
	72 inches (1830 mm) and greater	5/8 inch (16 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1830 mm)
Greater than 70 inches (1780 mm) to less than or equal to 120 inches (3050 mm)	less than 180 inches (4570 mm)	2 inches (51 mm)
	180 inches (4570 mm) and greater	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4570 mm)
greater than 120 inches (3050 mm)	less than 21 feet (6400 mm)	3 inches (75 mm)
	21 feet (6400 mm) and greater	3 inches (75 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6400 mm)

MTC TRANSIT CONNECTIVITY STUDY

TECHNICAL MEMORANDUM 4
Proposed Regional Wayfinding Signage Program

APPENDIX C

2004 ADA REQUIREMENTS SECTION 810 TRANSPORTATION FACILITIES

810 Transportation Facilities

810.1 General. Transportation **facilities** shall comply with 810.

810.2 Bus Boarding and Alighting Areas. Bus boarding and alighting areas shall comply with 810.2.

Advisory 8102 Bus Boarding and Alighting Areas. At bus stops where a shelter is provided, the bus stop pad can be located either within or outside of the shelter.

810.2.1 Surface. Bus stop boarding and alighting areas shall have a firm, stable surface.

810.2.2 Dimensions. Bus stop boarding and alighting areas shall provide a clear length of 96 inches (2440 mm) minimum, measured perpendicular to the curb or vehicle roadway edge, and a clear width of 60 inches (1525 mm) minimum, measured parallel to the vehicle roadway.

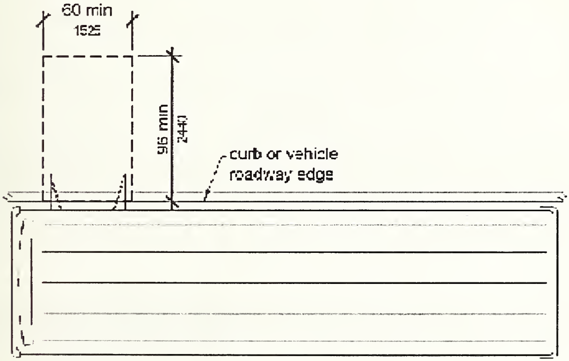


Figure 810.22
Dimensions of Bus Boarding and Alighting Areas

810.2.3 Connection. Bus stop boarding and alighting areas shall be connected to streets, sidewalks, or pedestrian paths by an **accessible** route complying with 402.

810.2.4 Slope. Parallel to the roadway, the slope of the bus stop boarding and alighting area shall be the same as the roadway, to the maximum extent practicable. Perpendicular to the roadway, the slope of the bus stop boarding and alighting area shall not be steeper than 1:48.

810.3 Bus Shelters. Bus shelters shall provide a minimum clear floor or ground **space** complying with 305 entirely within the shelter. Bus shelters shall be connected by an **accessible** route complying with 402 to a boarding and alighting area complying with 810.2.

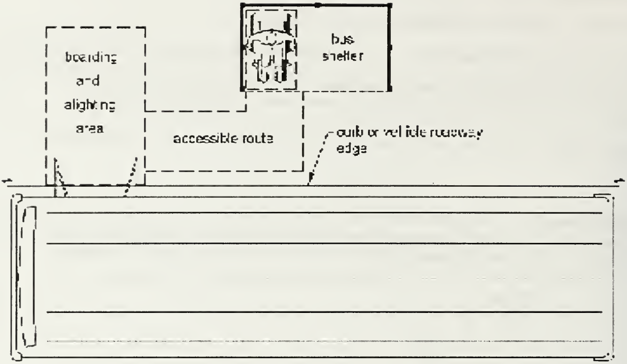


Figure 810.3
Bus Shelters

810.4 Bus Signs. Bus route identification signs shall comply with 703.5.1 through 703.5.4, and 703.5.7 and 703.5.8. In addition, to the maximum extent practicable, bus route identification signs shall comply with 703.5.5.

EXCEPTION: Bus schedules, timetables and maps that are posted at the bus stop or bus bay shall not be required to comply.

810.5 Rail Platforms. Rail platforms shall comply with 810.5.

810.5.1 Slope. Rail platforms shall not exceed a slope of 1:48 in all directions.

EXCEPTION: Where platforms serve vehicles operating on existing track or track laid in existing roadway, the slope of the platform parallel to the track shall be permitted to be equal to the slope (grade) of the roadway or existing track.

810.5.2 Detectable Warnings. Platform boarding edges not protected by platform screens or guards shall have **detectable warnings** complying with 705 along the full length of the **public use** area of the platform.

810.5.3 Platform and Vehicle Floor Coordination. Station platforms shall be positioned to coordinate with vehicles in accordance with the applicable requirements of 36 CFR Part 1192. Low-level platforms shall be 8 inches (205 mm) minimum above top of rail.

EXCEPTION: Where vehicles are boarded from sidewalks or street-level, low-level platforms shall be permitted to be less than 8 inches (205 mm).

Advisory 810.5.3 Platform and Vehicle Floor Coordination. The height and position of a platform must be coordinated with the floor of the vehicles it serves to minimize the vertical and horizontal gaps, in accordance with the ADA Accessibility Guidelines for Transportation Vehicles (36 CFR Part 1192). The vehicle guidelines, divided by bus, van, light rail, rapid rail, commuter rail, intercity rail, are available at www.access-board.gov. The preferred alignment is a high platform, level with the vehicle floor. In some cases, the vehicle guidelines permit use of a low platform in conjunction with a lift or ramp. Most such low platforms must have a minimum height of eight inches above the top of the rail. Some vehicles are designed to be boarded from a street or the sidewalk along the street and the exception permits such boarding areas to be less than eight inches high.

810.6 Rail Station Signs. Rail station signs shall comply with 810.6.

EXCEPTION. Signs shall not be required to comply with 810.6.1 and 810.6.2 where audible signs are remotely transmitted to hand-held receivers, or are user- or proximity-actuated.

Advisory 810.6 Rail Station Signs Exception. Emerging technologies such as an audible sign systems using infrared transmitters and receivers may provide greater accessibility in the transit environment than traditional Braille and raised letter signs. The transmitters are placed on or next to print signs and transmit their information to an infrared receiver that is held by a person. By scanning an area, the person will hear the sign. This means that signs can be placed well out of reach of Braille readers, even on parapet walls and on walls beyond barriers. Additionally, such signs can be used to provide wayfinding information that cannot be efficiently conveyed on Braille signs.

810.6.1 Entrances. Where signs identify a station or its **entrance**, at least one sign at each **entrance** shall comply with 703.2 and shall be placed in uniform locations to the maximum extent practicable. Where signs identify a station that has no defined **entrance**, at least one sign shall comply with 703.2 and shall be placed in a central location.

810.6.2 Routes and Destinations. Lists of stations, routes and destinations served by the station which are located on boarding areas, platforms, or **mezzanines** shall comply with 703.5. At least one **tactile** sign identifying the specific station and complying with 703.2 shall be provided on each platform or boarding area. Signs covered by this requirement shall, to the maximum extent practicable, be placed in uniform locations within the system.

EXCEPTION: Where sign **space** is limited, **characters** shall not be required to exceed 3 inches (75 mm).

Advisory 810.6.2 Routes and Destinations Route maps are not required to comply with the informational sign requirements in this document.

810.6.3 Station Names. Stations covered by this section shall have identification signs complying with 703.5. Signs shall be clearly visible and within the sight lines of standing and sitting passengers from within the vehicle on both sides when not obstructed by another vehicle.

> **Advisory 8106.3 Station Names.** It is also important to place signs at intervals in the station where passengers in the vehicle will be able to see a sign when the vehicle is either stopped at the station or about to come to a stop in the station. The number of signs necessary may be directly related to the size of the lettering displayed on the sign.

810.7 Public Address Systems. Where public address systems convey audible information to the public, the same or equivalent information shall be provided in a visual format.

810.8 Clocks. Where clocks are provided for use by the public, the clock face shall be uncluttered so that its **elements** are clearly visible. Hands, numerals and digits shall contrast with the background either light-on-dark or dark-on-light. Where clocks are installed overhead, numerals and digits shall comply with 703.5.

810.9 Escalators. Where provided, escalators shall comply with the sections 6.1.3.5.6 and 6.1.3.6.5 of ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1) and shall have a clear width of 32 inches (815 mm) minimum.

EXCEPTION: Existing escalators in **key stations** shall not be required to comply with 810.9.

810.10 Track Crossings. Where a **circulation path** serving boarding platforms crosses tracks, it shall comply with 402.

EXCEPTION: Openings for wheel flanges shall be permitted to be 2½ inches (64 mm) maximum.

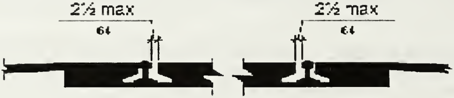


**Figure 81010 (Exception)
Track Crossings**

MTC Transit Connectivity Study

Technical Memorandum 7
Plan for Last Mile Connecting Services

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January 18, 2006

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DRAFT
Plan for Last Mile Connecting Services

I. Introduction

This element of the Regional Transit Connectivity Study establishes a plan for last mile connecting services. Last mile services are mobility options that provide a convenient link either between a person's home and a regional hub/transit center or from a hub/center to the individual's final destination (work, school, shopping, recreation, medical, etc.). The person's reverse trip is also an important focus of last mile connections. A reverse trip can vary from the initial trip because of time of day, traffic, time of year and other personal or environmental factors. When effective, last mile services complement existing bus, rail and ferry transit services by offering customers the complete trip they need. Furthermore, last mile services have a broad market and customer base, which provides an opportunity to address travel needs in a more flexible and innovative way.

This report will (1) summarize key findings and service characteristics specific to last mile services based on an inventory at five prototype hubs, (2) define effective last mile services that complement fixed-route transit, (3) identify gaps in last mile services, (4) list steps to develop last mile services at regional transit hubs, and (5) recommend an approach for defining potential pilot projects that could test innovative approaches for enhancing last mile services.

II. Definition

Last mile connecting services are traditional and non-traditional transit and mobility methods that allow individuals to easily connect or transfer to mainline (fixed-route) rail and bus lines either at the starting or end of their trip. The last mile services discussed in this report are grouped into the following Primary and Secondary categories:

Primary

Shuttles,
Pedestrian access,
Bicycle access and parking,

Secondary

Taxis,
Electric commute options,
Innovative technology and programs, e.g, Guaranteed ride home programs and station cars/carsharing

Last mile services are dynamic and evolving services that are as varied as the stations themselves. They differ from other aspects of transit connectivity because these services are not always provided solely by a transit operator or other public agency. Often, they are established in response to a need from a specific customer market. In most instances, private operators and businesses provide the service or are in partnership with public agencies. In fact, for most last mile services to be implemented, collaboration is needed between transit operators, public agencies, local businesses, funding agencies, and non-profit groups. Additionally, it is helpful and sometimes critical that local planning processes address last mile connections in General Plans, specific plans, and other elements of downtown, transportation, bicycle and pedestrian circulation. Because last mile improvements may begin as demonstration or pilot projects, they tend to utilize new or innovative technology and new program concepts.

III. Methodology

The findings and recommendations included in this report were developed via a series of on-site field evaluations at each prototype hub, and also through input provided by a Transit Hub Task Force (a specific task force established for each of the five prototype hubs which included representatives from transit operators, shuttle operators, local and regional agencies), the BayCAP Shuttle Network, the MTC Regional Pedestrian Advisory Committee, and other key stakeholders. Additionally, transit operators were individually contacted for hub data included in this report. Comments were also provided by those members of the public who participated in the Hub Focus Groups, as described in more detail in the Customer Research Summary Report of this Regional Transit Connectivity Study.

Last mile opportunities were assessed and evaluated at the five prototype hubs developed through Task 2 of this study: San Rafael Transit Center, San Jose Diridon Station, El Cerrito Del Norte BART Station, San Francisco Ferry Terminal/Embarcadero BART Station, and Dublin/Pleasanton BART Station. The results of this analysis are summarized in Table 1.

Unfortunately, no comprehensive, current and consistent source of data exists to inform planners of how transit passengers get to and from transit hubs or stations, or about their needs and preferences, which change over time. This analysis suggests the need for such future data collection efforts.

The limited information that is available (primarily from BART's 1998 Station Profile Survey and from Marin County's 2005 Short Range Transit Plan) is illustrated in Table 2. Data provided by VTA for the San Jose Diridon Station indicates that nearly all current DASH shuttle riders transfer from rail services at that station. Other types of mode transfer data are not currently available, although VTA is in the process of preparing on-board passenger survey data that should be available in 2006.

Table 1
REGIONAL TRANSIT PROTOTYPE HUBS
LAST MILE EVALUATIONS & FINDINGS

Regional Hub	Shuttles services	Pedestrian Access	Bicycle Access/ Parking	Taxis	Electric Commute	Guaranteed Ride Home	Station Cars/ Car Sharing
San Rafael Transit Center	1 shuttle, 2 airport buses; limited info posted	No consistent method; no signs	Insufficient parking, no signs or bikeways posted	Available; limited info posted	No information	Available for only Marin County employees	No information
S.J. Diridon Station	Several available; no signs or info posted	No consistent method; no signs	Limited parking available, no signs or bikeways posted	Available; limited info posted	No information	Program available, no information on site	No information
E.C. Del Norte BART Station	1 shuttle; limited info posted	Some local maps available, limited signs	Many racks and lockers available; limited signs and bikeways posted	Available; limited info posted	No information	Program available, no information on site	No information
S.F. Ferry/ Embarcadero BART Station	3 shuttles; limited info posted	Local maps available; wayfinding signs available	Bikestation available; limited bike racks and lockers available; minimal bikeways and signs posted	Available; limited info posted	No information	Program available, no Information on site	12 cars available; no information posted
D.P. BART Station	Several shuttles available; some signs & info posted	Local maps available; no signs	Many racks and lockers available limited signs and bikeways posted	Available; limited info posted	No information	Program available, no information on site	No information

Table 2
TRANSIT ACCESS AND MODE TRANSFER DATA

Mode	BART 1998 Mode Share	BART 2005 Target by Mode	Marin County 2005 Transfers
Walk	23.0%	24.0%	52%
Bike	2.0%	2.5%	2%
Transit, Shuttle	21.0%	21.5%	36%
Drop-off, Carpool Taxi	16.0%	19.0%	5%
Drive Alone	38.0%	33.0%	3%

IV. Key Findings by Mode

This section provides an overview of each type of last mile service, and reports on available services at each of the five prototype hubs.

Shuttles

Shuttles are an important aspect of last mile services because they provide convenient and direct service to desired locations. While the type of shuttle service and the need for shuttle service may vary from community to community, the evaluation shows that for shuttles services to be successful they should: (1) have secure start-up and ongoing funding arrangements; (2) be integrated and coordinated with fixed-route transit; (3) create a partnership between transit operator(s), local agencies, businesses and/or non-profit groups. Employer shuttles are one example of a successful shuttle. Additionally, shuttles are cost effective compared to the cost of most fixed-route bus operations. Shuttle connections were found to be available at all five hub locations; however, shuttle customer information, bus stops, signs and weather protection were minimal or lacking.

Certain demand-response bus services such as airporter, express or other bus commute options are included in this category. These services are typically provided by private bus operators and can be important last mile connections.

Recently, the BayCAP Shuttle Network, which is funded by the Bay Area Air Quality Management District (BAAQMD), prepared an inventory of Bay Area shuttles. They found that:

- Shuttles are managed by nearly 50 public and private entities – transit agencies, cities, employers, colleges/universities, etc.
- More than 160 shuttle routes connect rail stations with employers, universities, medical centers, shopping districts and other key destinations.
- A majority of shuttles are funded through public/private partnerships. Typical funding agencies include the Air District, transit agencies, local governments and sponsoring organizations.
- Nearly all shuttles are fare-free and most are open to the public.

- Shuttles serve more than 8 million riders per year.
- A majority of shuttle riders were previously solo drivers.
- Shuttles in the Bay Area were originally set up to provide better access for employees to their worksites that were not directly served by transit. Now, shuttles are expanding to serve many other customer markets, including shoppers, seniors, low-income residents, children and other target populations.
- Most shuttles are contracted out to private shuttle vendors. Some are operated in-house and some are operated by transit agency staff.

The complete Shuttles Inventory is included as Appendix A to this report.

Availability of Shuttles at Prototype Hubs

- San Rafael - One shuttle is provided at the San Rafael Transit Center. It is funded by Marin County and is available to employees who need a connection to the Marin County Civic Center. The shuttle is free to riders and it operates on a limited schedule during commute hours.

- Diridon - Several employer shuttles operate at the San Jose Diridon Station, in addition, a CalTrain shuttle and a downtown shuttle known as DASH serve that station. The employer shuttles are free and available during commute hours to the employees or visitors of the companies that operate the shuttles. The CalTrain shuttle is operated by CalTrain/JPB as an extension of Caltrain service to the Tamien Station. It is operated on a fixed schedule. The DASH shuttle is operated by VTA for the City of San Jose and is available all day Monday through Friday. It is free and open to the public and includes service to the San Jose State University campus.

- Del Norte - One employer-based shuttle is provided at El Cerrito Del Norte BART Station. It is free to employees and there is limited service during commute hours.

- Ferry/Embarcadero - Three employer-based shuttles are provided near the San Francisco Ferry Terminal/Embarcadero BART Station. They are free and operated during commute hours. There is also an Amtrak bus service that provides connection to the Emeryville Amtrak Station.

- Dublin/Pleasanton - At the Dublin/Pleasanton BART Station there are several employer shuttles that are provided as a partnership between LAVTA, the local transit agency, and local businesses. These shuttles are free and are available to employees and the public who need connection to the employers' offices in the business park.

Pedestrian Access

While pedestrian access, including provision of adequate sidewalks and safe intersections may be considered important by local agencies, there is not a consistent approach to provide such access at the five hub locations.

Wayfinding signs to help pedestrians navigate their way to and from, as well as within the station or hub are in use at the Ferry Terminal/Embarcadero BART hub. All BART station hubs (El

Cerrito del Norte, Dublin/Pleasanton) provide local maps and information. Adequate pedestrian access should include safe, secure and accessible street, intersection and crosswalk design considerations. It would also include related amenities such as adequate lighting, shelters and or benches, and a pleasant place to wait. For the most part, these improvements are available; however, they are inconsistent and minimal at the five hub locations. All hubs appeared to have ADA-compliant pathways which are defined as pathways, walkways and/or sidewalks which meet the accessibility requirements specified in 49 CFR Part 37 or other applicable Federal and/or State ADA regulations.

Bicycle Access and Parking

Four of the five locations were found to have adequate bicycle parking, with the exception the San Rafael Transit Center, which has a significant need for more parking. There are no directional signs for bike parking. All locations have bikeways adjacent to or connecting the facilities although signs are limited or not available at all. No information or signs are available for the Bay Trail which is a regional bike facility.

Taxis

Taxi services are available at all hub locations; however, signs are limited and there are no directional signs to taxi services. There also is no way to contact the taxi services directly although in some locations public telephones are available.

Electric Commute Options

Numerous businesses throughout the Bay Area provide electric bikes, scooters and vehicles for commute purposes. Electric commute options are not currently available at any of the five prototype hub locations and there is no information about such services. The bikestation at the Embarcadero BART Station has the potential to accommodate electric bicycles and/or scooters and is an excellent resource for electric commute options. In 2006, some electric commute options will be tested at the Pleasant Hill BART Station through a partnership between BART, Caltrans, BAAQMD and businesses in the Contra Costa Centre.

Guaranteed Ride Home

Guaranteed Ride Home programs have been in existence for several years in the Bay Area. These programs are generally sponsored by counties or cities for employees who work in that jurisdiction. The agency provides rides on an emergency basis from an employee's work location to home or other destination. When an employee wants to take advantage of this service, they must contact the appropriate county program office. Programs currently exist in Alameda, Contra Costa, Santa Clara, San Francisco and San Mateo Counties. The providers of the service tend to be taxi operators who are contracted by the city or county agency.

Guaranteed Ride Home programs are an excellent last mile connection particularly in the evening or at night when fixed-route train and bus services operate on a limited basis.

Station Cars and Carsharing

Station cars and carsharing is a relatively new service in the Bay Area. The purpose of station cars and carsharing services is to provide members of the public access to an automobile without having to purchase or own it. In these programs, participants share vehicles (a single vehicle will have multiple users) and are encouraged to carpool. Station cars have been tested at the Dublin/Pleasanton and Fremont BART stations. At Dublin/Pleasanton station the test was conducted by UC Berkeley PATH in 2000.

Currently carsharing services are available only at the Embarcadero/Ferry Building hub.

V. Effectiveness of Last Mile Services that Complement Fixed-Route Transit

The following section suggests a definition of highly effective last mile services that complement fixed-route bus, rail, and ferry transit. These definitions are suggested as key elements to consider when recommending future improvements, and are intended to serve as a benchmark against which to compare existing services and programs. They are derived from field evaluations and comments that were received at the five prototype hubs. Appendix B provides a more detailed effectiveness evaluation and is applied to the five prototype hubs by access mode.

A Highly Effective Shuttle Service Network:

1. Operates at least one shuttle that is responsive to customer needs during commute periods or other periods of high demand (i.e. public events – sports, county fairs, community celebrations, etc.)
2. Establishes schedules that are coordinated and timed to meet fixed-route bus, train and ferry connections yet flexible enough to respond to operational changes,
3. Provides reliable shuttle information, schedules and telephone numbers,
4. Displays shuttle routes,
5. Posts shuttle stop signs if desired by the shuttle operators and local jurisdiction (may include next bus type signs),
6. Installs bus shelters and other customer amenities,
7. Fosters communication between shuttle and fixed-route operators to ensure a service that is responsive to customer needs.

Highly Effective Pedestrian Access:

1. Posts local maps that show downtown areas, regional facilities, parks, business, community and government centers.
2. Installs wayfinding signs that link to connecting fixed-route transit and areas listed in #1,
3. Develops clearly identifiable entries and exits at the transit hub,
4. Provides adequate pedestrian loading zones,
5. Designs all pathways from each of the four quadrants that surround a transit hub to be safe, secure and compliant with Federal and State ADA accessibility regulations,
6. Uses landscaping and public art to create a pleasing design and pedestrian scale.

Highly Effective Bicycle Access and Parking:

1. Provides adequate, safe and secure bicycle parking with racks, lockers, bikestation and/or new technologies.
2. Accommodates bicycles on fixed-route transit and shuttle vehicles,
3. Posts bike parking and directional signs at the transit hub and wayfinding signs to/from the hub,
4. Installs safe and secure regional bikeways that link each of the four quadrants with the transit hub,
5. Uses landscaping and other amenities to enhance the environment and provide safer bike routes.

Highly Effective Taxi Services:

1. Allows for at least two taxi providers to establish their businesses at regional hubs,
2. Posts a signed taxi stop,
3. Provides information and telephone numbers about taxi services.
4. Installs a public telephone or direct dial phone that connects to taxi services.

Highly Effective Electric Commute Alternatives:

1. Allows for a least one alternative service at the hub location,
2. Posts information and telephone numbers,
3. Encourages businesses to advertise at the hub or other transit customer service outlets.

Highly Effective Guaranteed Ride Home Programs:

1. Allows for at least one program should be available at the hub location,
2. Posts information and telephone numbers.

Highly Effective Station Cars and Carsharing:

1. Allows for at least one type of service at the hub location,
2. Posts information and telephone numbers,
3. Encourages businesses to advertise at the hub or other transit customer service outlets.

VI. Last Mile Service Gaps

This section of the report highlights "best practices" in the Bay Area for shuttles, pedestrian and bicycle access that are effective programs in addressing last mile service gaps. Furthermore, this section also identifies specific examples of untapped markets for these three modes that result in last mile service gaps at each of the five prototype hubs. These examples are measured against the benchmark of a highly effective last mile program outlined above and are based on findings and comments from the site evaluations.

Bay Area Best Practices

Shuttles:
1. Samtrans/Caltrain JPB Shuttles

Service characteristics: Point-to-point services in San Mateo and Santa Clara Counties between Caltrain stations, business parks, specific employers, downtown areas and BART stations. Serves approximately 1.4 million riders per year.

Partnerships: Samtrans, Caltrain JPB, City-County Association of Government (C-CAG), Peninsula Alliance, cities, employers, and BAAQMD. The service is managed for the partners by Samtrans.

Secured funding: Annual funding is provided by Samtrans, Caltrain JPB, C-CAG, Measure A, TFCA and employers.

Complement to fixed-route: Coordinated schedules and connections with BART rail, AC Transit buses, Samtrans buses, Caltrain rail, AMTRAK and Capital Corridor rail, VTA light rail and buses.

2. Emery-Go-Round Shuttles

Service characteristics: Point-to-point services between the City of Emeryville and the MacArthur BART Station in Oakland. Serves approximately 850,000 riders per year.

Partnerships: City of Emeryville, Emery-Go-Round, AC Transit, BART and employers. The service is managed for the partners by Emery-Go-Round.

Secured funding: Annual funding is provided by the City of Emeryville through a business improvement district (BID).

Complement to fixed-route: Coordinates schedules and connections with AC Transit buses, BART rail and several hospital shuttles at the MacArthur BART Station.

3. San Leandro LINKS Shuttle

Service characteristics: Point-to-point services between the San Leandro BART Station and business and residential areas in the western portion of San Leandro. Serves approximately 160,000 riders per year.

Partnerships: City of San Leandro, San Leandro Transportation Management Agency, San Leandro Chamber of Commerce, BART and employers. The service is managed for the partners by the San Leandro Transportation Management Agency.

Secured funding: Start-up funding was provided by the City of San Leandro, BART, TFCA, LIFT grant and employers. As of 2005, current annual funding is being provided by the City of

San Leandro Redevelopment Agency, a new business improvement district, LIFT grant, and BAAQMD.

Pedestrian Access:
1. BART Station Access Guidelines, October 2003

Program characteristics: These guidelines address last mile connections at BART stations system-wide. They define access as passenger trips from an origin to the station and from the station to a final destination. Origins and destinations include areas within the station, i.e. bus, shuttle, bike parking, customer drop-off, and vehicle parking lots and locations adjacent to the station such as home, work and commercial venues.

Plan context: Integrated with BART Strategic Plan and System-wide Access Targets for 2005 and 2010. Also supports the development of BART station access plans.

Wayfinding: Establishes wayfinding sign principles that promote access and transit connectivity by walking, transit, bicycle, pick-up and drop-off, and vehicle parking.

Design: Reinforces access from each of four quadrants that surround the stations and integrates safe, secure, and fully accessible pathways that utilize landscaping and public art to enhance the pedestrian environment.

Bicycle Access:
1. Berkeley Bicycle Boulevard Network

Program characteristics: This network establishes seven major bicycle corridors that are the backbone of bicycle pathways in the City of Berkeley. They are oriented in a north-south and east-west direction and enable bicyclist to travel in a bicycle friendly environment though all parts of Berkeley. This network is integrated with the other elements of Berkeley's bicycle program i.e. routes, lanes and bicycle parking areas.

Plan context: This network is included in the Berkeley 2000 Bicycle Plan which is part of the City's General Plan.

Wayfinding: Establishes a sign program that includes wayfinding, directional signs (which include distance by mileage), and street signs.

Design: The design of the boulevards incorporate pavement legends that clearly delineate the corridor. Street design usually includes other types of traffic calming devices that reduce the number and speed of vehicles.

Service Gaps at Prototype Hubs

Listed below are site specific last mile service gaps that were identified from site evaluations of the prototype hubs, and are also based on comments received during the focus group process.

Such improvements are examples of last mile enhancements that could be considered at regional hubs.

San Rafael Transit Center

Shuttle Service

- The existing shuttle service provided by Marin County Transit could be expanded and connectivity to other fixed-route services could be enhanced to accommodate more County and Civic Center employees who need access to this major regional government facility.

Pedestrian and Bicycle Access

- Improved safe and secure pedestrian and bike pathways would enhance access to the Canal District (where most local Marin County service occurs), and would provide a better link to the transit center for local residents.
- Businesses owners and customers in Downtown San Rafael would benefit from improved, safe pedestrian linkages and a wayfinding sign program.
- The Mission San Rafael District could be easily accessed from the transit center. Visitors, students and employees would benefit from improved safe and secure pedestrian/bike pathways and a wayfinding sign program.

San Jose Diridon Station

Pedestrian Access

- The public who use the San Jose Arena sports complex would benefit from a strong pedestrian linkage, improved safety and security, lighting, signs, banners and other amenities. During events, the Arena owners should consider providing electric shuttles for people who have walking limitations.

Shuttle Service

- The DASH shuttle currently provides service to downtown and San Jose State University. Moving the shuttle stop close to the main station entrance and providing customer amenities (shelters, benches and schedule information) could improve transit ridership.

El Cerrito Del Norte BART Station

Shuttle Service

- Many El Cerrito residents drive to the Del Norte and Plaza stations from within one/two miles distance. Additionally, several schools and community facilities are located in close proximity to the station environs. A loop shuttle service on a modified flexible route with GPS and direct phone service to the drivers would reduce neighborhood vehicle trips and improve access to transit for many local residents, students, teachers and City employees.

Pedestrian Access

- The El Cerrito residents who live east of the Del Norte BART Station have a difficult time walking to the retail establishments on San Pablo Avenue. An improved safe and secure pedestrian connection through the BART Station could benefit the residents and businesses would potentially increase transit riders for the numerous transit providers at this regional hub.

Ferry Terminal/Embarcadero BART Station

Pedestrian Access

- Infrequent ferry customers may have difficultly connecting to other transit services or to business areas in downtown San Francisco because to the size of this regional hub and its complexity in an urban environment.

Dublin/Pleasanton BART Station

Shuttle Service

- Improved directional signage to connecting shuttle services is needed. The existing physical layout of the bus loading zones at this regional transit hub make it difficult for potential bus riders to find their bus or connections to other transit services.

Pedestrian and Bicycle Access

- Many businesses are located within a mile of the BART station, and the climate in this neighborhood is conducive to walking and bicycling. Improved safe and secure pedestrian/bike pathways and wayfinding signs could increase the number of employees who could use the numerous transit services available at the BART station.

IV. Steps Recommended to Develop Last Mile Services at Regional Hubs

In this section, five key steps are recommended to help project planners and implementing agencies develop effective last mile services and improvements. These steps, described in more detail below, include:

- Provide Customer Information Regarding Available Last Mile Services
- Collect Relevant Data to Document Customer Needs and Preferences
- Establish Service Standards and Benchmarks
- Coordinate with Local Land Use Planning Efforts
- Identify Start-up and Ongoing Funding

Provide Customer Information Regarding Available Last Mile Services:

A review of each of the five prototype hubs identified the lack of adequate customer information about connecting last mile services at each site. Each regional transit hub should provide customer information and links to last mile service connections. Typical ways to provide this information include postings on bulletin boards, brochures, telephone numbers and direct dial telephones.

In the future interactive audio/visual displays, terminals, wireless communications, global positioning systems (GPS) and other real- time technology will be available. Typically these systems are provided by transit operators and are integrated directly with transit operations departments and with service provider dispatch centers. Furthermore, MTC and the regional operators are working to enhance a regional customer information portal through the 511 network, which provides customer information on-line, and by telephone. Steps need to be taken to ensure that information about last mile services is fully integrated into the 511 system.

Collect Relevant Data to Document Customer Needs and Preferences

To understand effective service connections and customer needs, it is important to develop customer service data, to survey transit riders and, if possible, survey potential transit riders. Currently, comprehensive and current data is limited or not available at all. Transit operators could consider enhancing their short-range transit plans to collect new transit data and specifically address last mile connections.

Recently, the BayCAP Shuttle Network completed a survey of shuttle riders for numerous shuttle services. See Appendix C for details on the BayCAP BART Shuttle Rider and SAMTRANS BART Shuttle surveys. Information gleaned from these surveys can provide a starting point for operators needing to ascertain their customers' needs and preferences, which change over time.

Establish Service Standards and Benchmarks

The following modal criteria have been developed as a suggested standard to consider when developing last mile services. These standards may be adopted or revised since service needs may vary from community to community.

Shuttle services:

1. Developing new markets for shuttle services requires a manager or managing agency who can document customer needs and preferences, provide oversight for service connections, establish an operating plan and negotiate funding arrangements with local agencies, transit providers, businesses or rider groups.
2. Creating partnerships between public agencies and private organizations that secure dedicated funding sources has proven effective in the Bay Area.
3. Coordinating with and complementing fixed-route connections is most effective when transit operators are active partners in the provision of shuttle services.
4. Designing a shuttle service that incorporates new technology, convenient connections and customer amenities could improve opportunities for funding.
5. Locating a specific shuttle stop would help customers know where to wait for the shuttle. In most cases a shuttle stop sign should be posted.
6. Marketing and advertising new shuttle services will help build public awareness and ridership.

Pedestrian access:

1. Preparing a pedestrian circulation plan as a part of an overall transportation system will formalize the importance of this mode.

2. The circulation plan should address access between the transit hub and downtown areas, regional facilities, residential neighborhoods, business, community and government centers via safe and secure pedestrian pathways.
3. The plan could consider the establishment of pedestrian districts which could provide a policy basis for performance measures in those districts.
4. Pedestrian access performance measures may include but are not limited to major intersections, crossing frequency, land use intensity, land use mix, interface with parking lots and structures and connecting transit.
5. The plan should include a wayfinding sign program that supports local needs and regional connectivity objectives.
6. Pedestrian pathways should promote safety and security, enhance the quality of life, and include amenities like benches, lighting, landscaping, and if possible public art.

Bicycle access and parking:

1. Preparing a needs analysis as part of a bicycle parking and circulation plan will help address transit operator and local issues.
2. The bicycle plan should identify safe and secure regional bike pathways from each of the four quadrants that surround a transit hub.
3. Install safe and secure bike pathways that are integrated with regional bike facilities and include a wayfinding sign program.
4. Employers can encourage their employees to commute to work by installing bicycle amenities on-site.

Taxi services:

1. Coordinating connecting services with taxi operators will facilitate new services.
2. Establishing licensing rules at transit hubs will enhance orderly service.
3. Locating a designated taxi stop will assist customers and minimize conflicts with other transit service providers.
4. Installing a public telephone or direct dial phone will provide a convenience for potential taxi users.

Alternative Commute Modes:

4. Encouraging and marketing electric vehicles, guaranteed ride home, station cars and carsharing alternatives could generate future last mile connections.
5. Promoting these alternatives in the context of global warming issues could generate new funding sources and partnerships.

Coordinate with Local Land Use Efforts

Often, transit centers and stations function independently from the local community planning and review processes. For regional transit hubs to be effective and convenient, they must be identified as community priorities and be integrated into the fabric of the local community. One way to do this is to involve the local community and businesses in the planning, design and implementation process. Usually for projects and improvements to be implemented they must be supported through the local land use planning and zoning processes, and would appear in General Plans, downtown and transportation plans and station area planning documents. Once projects appear in those plans, they are likely to be eligible for funding and capital improvement programs.

Local communities (i.e. cities and counties) should review and provide input to regional plans and other agency (i.e. transit operator) plans regarding gaps in last mile services that may address a particular need for that community. The service standards and benchmarks identified above should be used by implementing agencies to develop effective last mile services and improvements. Recent examples of such input are the MTC's "Mobility for the next generation, Transportation 2030 Plan," Bay Area Air Quality Management Distirct's (BAAQMD) BayCAP Shuttle Network, VTA's and the City of San Jose's station area plan for the Downtown/Diridon Station area and BART's and the City of Dublin's joint development program at the Dublin/Pleasanton BART Station.

Identify Start-up and Ongoing Funding:

Funding is obviously key to the success for any last mile connecting service or project. In this section, funding criteria is divided into capital for project improvements and operating for ongoing services. Within each of those categories funding can be either public, a combination of public/private, or all private, i.e. businesses or other entrepreneurial arrangements.

Regional Measure 2 (RM2) which was approved by voters in March 2004, established a new funding program called the Regional Safe Routes to Transit Program. This new program provides $ 22.5 million dollars over 35 years. The program will have five funding cycles of $ 4 million each. The purpose of the program is to fund pedestrian and bicycle access projects that close gaps and barriers, enhance connectivity to transit and improve secure bicycle storage at transit stations. This new funding source is an excellent example in the Bay Area of a program that will have positive impacts on addressing last mile service connections. Subsequent program funding cycles should incorporate the service standards and benchmarks that are adopted as a part of this report and the entire Regional Connectivity Study.

This report discusses in some detail existing and potential new capital and operating fund sources to provide shuttle service, and to improve bicycle and pedestrian access.

Shuttle services

Operating Funds - The Bay Area, based on the work of the BayCAP Shuttle Network, has an excellent inventory of public, public/private and privately funded shuttle services.

The inventory provided as Appendix A illustrates that there are more than 160 shuttles operating, providing more than 8 million rider trips per year and that there is demand for additional shuttles. Nearly all shuttles are fare-free, although there is one example, AirBART that charges a fare which covers the cost of operations. Similar to AirBART, there are many private airport bus services that provide last mile connections from transit hubs (i.e. San Rafael Transit Center) to the Bay Area airports. These bus services are viable business ventures and important service options.

The majority of operating funds for current shuttle services inventoried by the BayCAP Shuttle Network fall into the public and public/private funding models. These funding models include business assessment districts, a percentage share of local and business funding, use of local and county sales taxes, public funds through the BAAQMD, and private sector initiatives. The most successful shuttle services studied by BayCAP are those that have secure annual funding. For this reason, secure dedicated funding is considered benchmark criteria for new services.

Capital Funds - For future shuttle/bus services to be successful at regional transit hubs, in addition to the cost associated with purchasing new vehicles, capital funds may be needed to provide customer amenities such as bus shelters, information displays, seating, schedule information and test new technology that will integrate these services with fixed-route services and complement the regional transit system.

Pedestrian Access

Capital Funds – Pedestrian projects are typically funded by public capital funds, i.e. Safe Routes to Transit, Safe Routes to School and other congestion relief programs. Currently in the Bay Area, there is significant interest in joint development and redevelopment at and around transit hubs. Of the five prototype hubs studied in this report, Diridon Station, Del Norte and Dublin/Pleasanton BART Stations are excellent examples of private development that should generate capital funding for pedestrian improvements. In order to ensure that effective pedestrian linkages are developed, transit agencies and local jurisdictions will need to coordinate their review and approval processes and integrate pedestrian access criteria into their policy frameworks and design standards.

Bicycle Access and Parking

Capital Funds – Bicycle projects are typically funded by public capital funds, i.e. Safe Routes to Transit, STA, State Bicycle Transportation Account, County sales tax measures and other congestion relief programs. The Bay Area has been a leader in implementing bicycle projects, developing innovative bikeways and street designs, and having a large, outspoken advocate community. There are many efforts in most communities to integrate bicycle parking and access to bicycle routes into the transit network. Given the importance of bicycles in the Bay Area, regional and local agencies should continue to adopt policies that enhance bicycle access and secure capital funding as the primary source for the implementation of bicycle projects.

Operating Funds – A new type of bicycle project that began in the Bay Area several years ago is the "bikestation." A bikestation is primarily a secure, enclosed bicycle parking facility that may also offer other bicycling services and information. There are currently four bike stations in the Bay Area, including the one at the Ferry Terminal/Embarcadero BART Station regional hub. Since bikestations are operating facilities, they may require ongoing operating funds in order to continue to be successful complements to fixed-route transit services.

V. Pilot Projects

Once the Regional Connectivity Study is completed, the region may decide to test new and innovative approaches that enhance last miles services. A number of principles are suggested to guide discussions with relevant stakeholder groups (Regional Pedestrian Committee, BayCAP Shuttles Group, RM-2 Transit Connectivity TAC) and assist the MTC with the selection of potential pilot projects.

- What is the pilot project intended to test? Will it inform transit operators and/or other stakeholders on how best to enhance last miles services?
- Can the results be effectively evaluated?
- Could the results be replicated in other areas?
- How well does the proposed service or improvement complement fixed-route transit?
- Is there a project sponsor and other partners?
- Can it be implemented in a reasonable time frame?
- Is funding available?
- Will it be consistent with the five steps identified above for the development of last mile service connections?

Potential pilot projects could provide new or expanded shuttle services in order to specifically address gaps identified earlier in this report. Likewise, a pilot project could be established to test new technology, marketing programs, or the development and implementation of a survey instrument to advance our understanding of customer needs and preferences. A pilot project could also be jointly sponsored with local jurisdictions to test potential opportunities to improve bicycle or pedestrian access to hubs.

As a next step, specific suggestions for pilot projects will be sought in consultation with respective stakeholder groups. The final Last Mile Report will more fully define between three and five pilot projects to test innovative approaches for enhancing last mile services. The report will identify project sponsors, develop a preliminary scope of work, outline goals and objectives (including long-term sustainability) and budget requirements for conducting these pilot projects.

Appendix A
Inventory of Bay Area Shuttles

Six Bay Area Shuttle Models

Bay Area shuttle programs have been locally designed to meet specific local needs. One sized definitely does not fill all. BayCAP has identified six "models" to help understand the range of shuttle services.

1. Local Transit *System*
    - Large ridership: 700,000 – 3,000,000/yr
    - Links to rail stations and "circulating" service within community
    - 100% self-funded (or close to it)
    - 7 days/week —Up to 18+ hours/day.
    - Typically uses large transit buses

Shuttle Program	**Area**	**Rtes**	**Annual Riders**	**Annual Cost**	**Fares? Open?**	**Funding Sources**	**Other Info**
Emery-Go-Round (Emeryville) www.emerygoround.com	**MacArthur BART,** Emeryville employers, shopping, homes	4	850,000	$1.6 million	Free Open to all	Emeryville Property Improvement District	• Real-time schedule info via Web (map) and phone • EGR contracts with AC Transit for fuel, washing Wendy Silvani 510.465.0724 wlspr@aol.com

Local Transit *System* Cont'd.

Shuttle Program	**Area**	**Rtes**	**Annual Riders**	**Annual Cost**	**Fares? Open?**	**Funding Sources**	**Other Info**
Stanford	**Caltrain** (Palo Alto, California, Menlo Park), Stanford campus, Stanford Shopping Center, Stanford Hospital, downtown Palo Alto, student housing	11	1,400,000	$3 million	Free Open to all	Stanford (primarily) plus Air District, Caltrain JPB, Palo Alto, Stanford Shopping Center, Stanford Medical Center, Palo Alto Medical Foundation	• Real-time info via Web (map) Kevin Mathy 650.725.5996 kmathy@stanford.edu
UC Berkeley	**Downtown Berkeley BART**, UC Campus, nearby neighborhoods, Richmond Field Station	9	782,000	$1.6 million	Free Open to all	UC Berkeley parking revenue	• UC pays $2.06/mile fee to AC Transit for vehicles, maintenance and driver training Vernice Haddix 510.643.2926 vernice@uclink.berkeley.edu
UCSF	**16th St BART, Powell BART**, UCSF campuses (Parnassus Heights, Mission Bay, Laurel Heights) Mt. Zion, SF General	10	1,200,000	$3 million	Free Open to all	UCSF parking revenue and Medical Center assessment.	• Schedule info on PDFs for mobile devices Greg Mohr 415.502.1731 gmohr@cls.ucsf.edu

2. **Operated by Transit Agency**
   - Last-mile service from rail stations
   - Usually timed to meet weekday morning and afternoon trains
   - Typically funded by public/private partnerships

Shuttle Program	Area	Rtes	Annual Riders	Annual Cost	Fares? Open?	Funding Sources	Other Info
AC Transit	Fremont **BART**, Fremont **ACE/CapCorr,** Stanford campus, Stanford Medical Center, Palo Alto **Caltrain. (Line U)**	1	N/A	N/A	Free faculty/staff and SMC staff; $3 others	AC Transit, Stanford	• M-F AM and PM peaks Tony Divito 510.891.7132 tdivito@actransit.org
BART	Coliseum **BART**, Oakland Airport	1	950,000	Covered by fares	$2	BART, Port of Oakland	• Fares cover 100% of vehicles, maintenance, drivers, etc. Carter Mau 510.464.6194 cmau@bart.gov

Operated by Transit Agency Cont'd.

Shuttle Program	Area	Rtes	Annual Riders	Annual Cost	Fares? Open?	Funding Sources	Other Info
Caltrain JPB	Caltrain stations, employers in San Francisco, San Mateo and Santa Clara counties	35	1,000,000	$3.2 million	Free Open to all	Caltrain, C-CAG, Measure A, Air District, employers	• Funding usually 25% employer/city, 25% BAAQMD, 50% Caltrain • Some managed by Peninsula Alliance Mike Stevenson 650.588.8170, mike@commute.org Richard Cook 650.508.7979 cookr@samtrans.com
Capitol Corridor	Great America **ACE**, Santa Clara County employers	2	N/A	N/A	Free	Capitol Corridor	• GA riders can also use ACE shuttles; Diridon riders use VTA DASH • Capitol Corridor has agreements with connecting bus agencies; CC provides free transfers to riders and reimburses bus operator full adult fare. info@capitolcorridor.org
County Connection	Contra Costa homes, Pleasanton **ACE**, Concord **BART**, Concord employers, Pleasant Hill **BART**	4	N/A	N/A	ACE riders & some Concord employees free; Others pay Open to all	County Connection, Air District, employers, ACE	N/A Cindy Dahlgren 925.676.7306

Operated by Transit Agency Cont'd.

Samtrans (to BART)	**BART** stations, employers in San Francisco and San Mateo County	11	375,000	$1.2 million	Free Open to all	Samtrans, C-CAG, Measure A, Air District, employers	• Funding usually 25% employer/city, 25% BAAQMD, 50% Samtrans • Some managed by Peninsula Alliance Mike Stevenson 650.588.8170, mike@commute.org Richard Cook 650.508.7979 cookr@samtrans.com
VTA ACE	**ACE** Great America, Santa Clara County employers	8	240,000	$1.45 million	Free Open to all	ACE, VTA, Air District	• Planned as integral part of the ACE service Julia Jones 408.321.5609 Julia.jones@vta.org
VTA Light Rail	**VTA Light Rail,** Santa Clara County employers	5	360,000	$1.4 million	Free Open to all	VTA, Air District, employers	Julia Jones 408.321.5609 Julia.jones@vta.org

3. Operated by/for a City

- Typically "community" shuttles serving a mix of users—seniors, students, commuters, shoppers, etc.
- Usually funded by multiple sources—cities, counties, businesses, regional agencies, etc.
- Nearly all service is Monday-Friday

Shuttle Program	Area	Rtes	Annual Riders	Annual Cost	Fares? Open?	Funding Sources	Other Info
Burlingame	Millbrae **Caltrain/BART,** high school, homes, hospital, hotels, shopping areas	2	8,240 +Trolley	$67,120 + trolley	Free Open to all	Burlingame, Mercy High, Mills Hospital, C/CAG	• No. Burlingame shuttle M-F AM and PM peaks • Trolley F, Sa, Holidays Noontime and Evenings • Both managed by Alliance
East Palo Alto	East Palo Alto homes, senior center, shopping, **Caltrain,** schools	2	27,650	$210,000	Free Open to all	Federal JARC grant, Air District, C/CAG, Measure A Caltrain	• Senior shuttle runs different routes M/Th/, W, Tu/Fri • Home-to-Caltrain shuttle runs 7 days a week AM and PM peaks Fernando Bravo 650.853.3117 fbravo@cityofepa.org
Foster City Connection	Foster City homes, schools, senior services, shopping, Hillsdale **Caltrain**	2	40,510	$99,794	Free Open to all	Foster City, C/CAG	• M-F 9am – 3:30 pm
Menlo Park	**Caltrain,** employers, senior residences, senior center, library, medical facilities, shopping	3	21,185 plus CT	$130,384 plus CT	Free Open to all	Menlo Park, Caltrain, Air District, C/CAG	• Senior Shuttle M-F 9-3 • Door-to-door W, F 10-1 • Caltrain M-F AM and PM peaks Debbie Helming 650.330.6770 dahelming@menlopark.org

Operated by/for a City Cont'd.

Shuttle Program	Area	Rtes	Annual Riders	Annual Cost	Fares? Open?	Funding Sources	Other Info
Millbrae	Millbrae homes, senior services, medical facilities	1	2,835	$23,518	$3-$8 (based on miles	Millbrae, C/CAG	• Door to door service
Palo Alto	Palo Alto **Caltrain,** homes, senior services, libraries, schools, shopping, employers, medical facilities	3	175,000		Free Open to all	Palo Alto, Caltrain, Stanford, Air District, Palo Alto Unified School District	• Caltrain shuttle M-F AM and PM peaks • Crosstown shuttle 7a-6p • Substantial middle and high school ridership on both • Noontime shuttle in conjunction with Stanford Gayle Likens 650.329.2136 gayle_likens@city.palo-alto.ca.us
San Leandro LINKS	San Leandro **BART,** businesses, homes	1	160,000	$345,000	Free Open to all	Business Improvement District, Air District, MTC.	• AM and PM periods M-F • $$ Originally city, BART, Air District, MTC, employers) Catherine Brewer 510.347.4620 cc_brewer@yahoo.com

Operated by/for a City Cont'd.

Shuttle Program	Area	Rtes	Annual Riders	Annual Cost	Fares? Open?	Funding Sources	Other Info
Santa Clara BEE (Silicon Valley Power)	Santa Clara **Caltrain** and **ACE,** Santa Clara employers	2	17,500		Free Open to all	Silicon Valley Power	• Electric/propane hybrid vehicles • Public Benefits Charge (state mandated for energy saving projects) that customers chose to use for employee shuttles Joyce Kinnear 408.615.5686 jkinnear@ci.santa-clara.ca.us
Walnut Creek	Walnut Creek **BART,** downtown businesses	1	N/A	N/A	Free Open to all	Walnut Creek	• M-F 7am – 7pm, Sa/Su 9 am-7pm • Operated by County Connection Cindy Dahlgren 925.676.1976

4. **Operated by a Single Entity—Employer, Business Park, School or Hospital**
    - Usually funded by single source—employer, business group, hospital, school, etc.
    - Typically only open to employees or members of the sponsoring organization
    - Nearly all service is Monday-Friday
    - Some operate AM and PM peak periods, some run all day/evening

Shuttle Program	**Area**	**Rtes**	**Annual Riders**	**Annual Cost**	**Fares? Open?**	**Funding Sources**	**Other Info**
Alta Bates (Berkeley)	Ashby **BART**, Rockridge **BART**, Alta Bates Hospital	2	N/A	N/A	Free Open to workers, patients, visitors	Alta Bates Hospital	N/A
Bank of America (Concord)	Concord **BART** to BofA	1	N/A	N/A	N/A	N/A	N/A
Bishop Ranch (San Ramon)	Walnut Creek **BART**, Dublin/Pleasanton **BART**, Bishop Ranch businesses, San Ramon Transit Center	4	233,000	$750,000	Free to BR workers; Regular CCCTA fares others	Bishop Ranch Transportation Association	• Operated by County Connection under annual contract • M-F AM and PM peaks Marci McGuire 925.830.0101 marci_brtc@bishopranch.com
Children's Hospital /Summit (Oak)		1	60,000	N/A	Free Open to workers, patients	Children's Hospital and Summit Medical Center	• M-F 5 am to Midnight

Operated by a Single Entity—Employer, Business Park, School or Hospital Cont'd.

Shuttle Program	**Area**	**Rtes**	**Annual Riders**	**Annual Cost**	**Fares? Open?**	**Funding Sources**	**Other Info**
Cisco (San Jose)	Fremont **BART** to Cisco	1	N/A	N/A	N/A	N/A	N/A
CSU Hayward	Hawyard **BART** to CSU	1	N/A	N/A	N/A	N/A	N/A
Google (Mountain View)	East Bay, SF areas to Google	2	N/A	N/A	N/A	N/A	N/A
Hacienda Bus Park (Pleasanton)	Dublin/Pleasanton **BART**, Hacienda BP businesses and residences	4	290,000	$198,000	Free to Hacienda workers; WHEELS fares others	Hacienda Business Park	• $128,000 annual subsidy payment to LAVTA based on bus service hours in Hacienda plus $70K for other costs James Paxon 925.734.6510 james@hacienda.org
IBM (San Jose)	**Caltrain**, **ACE** and **VTA** LR to IBN	5	N/A	N/A	N/A	N/A	N/A
Kaiser Hosp (South Bay)	Redwood City, Santa Clara and San Jose Kaiser facilities, Fremont **BART**, various **Caltrain** and **ACE** stations	3	N/A	N/A	Free Open to workers	Kaiser Permanente	• Operated by Altrans • M-F AM and PM peaks
Kaiser Hosp (Oak)	MacArthur **BART**, Kaiser Hospital	1	N/A	N/A	Free Open to workers, patients, visitors	N/A	N/A

Operated by a Single Entity—Employer, Business Park, School or Hospital Cont'd.

Shuttle Program	Area	Rtes	Annual Riders	Annual Cost	Fares? Open?	Funding Sources	Other Info
Lawrence Berkeley Lab	Rockridge and Berkeley **BART** to LBL	2	N/A	N/A	N/A	N/A	N/A
Mervyn's (Hayward)	Hayward and Castro Valley **BART** to Mervyn's	2	N/A	$300,000	N/A	N/A	N/A Patty Pine 510.727.5221 patty.pine@target.com
NASA Ames (Mountain View)	Mountain View **Caltrain** and NASA	1	N/A	N/A	N/A	N/A	N/A
NUMMI (Fremont)	Fremont **BART** to NUMMI	1	N/A	N/A	N/A	N/A	N/A Steven Spivak sspivak@nummi.com
San Francisco State	Daly City **BART** to SF State	1	N/A	N/A	N/A	N/A	N/A
San Jose Water Company	Diridon **Caltrain** and Tamien **Caltrain/VTA LR** to San Jose Water Company	1	N/A	N/A	N/A	N/A	N/A
St. Mary's Medical Ctr (SF)	SF Civic Center **BART**, St. Mary's Medical Center	1	800	$55,000	Free Open to workers with ID	St. Mary's Medical Center	• M-F AM and PM peaks Daniel Christy 415.750.4889 dchristy@chw.edu

Operated by a Single Entity—Employer, Business Park, School or Hospital Cont'd.

Shuttle Program	**Area**	**Rtes**	**Annual Riders**	**Annual Cost**	**Fares? Open?**	**Funding Sources**	**Other Info**
Sun Microsystems (SC, Alameda counties)	Sun sites in South Bay and southern Alameda County, Fremont **BART**, various **Caltrain, ACE, Capitol Corridor** stations	8	100,000	$1.1 million	Free Sun employees only	Sun Microsystems	• M-F Peak and midday services
Wells Fargo (Concord)	Concord BART to Wells Fargo	1	N/A	N/A	N/A	N/A	N/A

Appendix B
Effectiveness of Last Mile Services in Complementing Fixed-Route Transit Services

The Last Mile Plan defines effectiveness standards that are based on field observations and input from transit users, transit operators and local agencies at the five prototype hubs. Earlier in this report, the highly effective standard is defined for all access modes. The other standards; Effective, Somewhat Effective and Not Effective are used to identify services or improvements that afford less desirable conditions than Highly Effective. In this Appendix, the effectiveness standards are applied to the five prototype hubs by access mode.

Shuttle Services:

San Rafael Transit Center – Somewhat Effective

- Limited service,
- Shuttle stop is hard to find,
- Shuttle schedule not posted with other transit information,
- Limited information about how to contact shuttle operator.

S.J. Diridon Station – Highly Effective

- Several business and downtown shuttles are coordinated with and complement fixed-route train services,
- Even thought the DASH shuttle is well utilized, customers would benefit from the shuttle stop being moved closer to the station, the provision of a bus shelter and posted schedule information,
- The private company shuttles do not post schedules or their stop location, however, shuttle riders know exactly when and where to catch shuttles.

E.C. Del Norte BART – Not Effective

- Only one shuttle with limited service,
- Shuttle stop is not clearly marked,
- Shuttle schedule is not posted with other transit information,
- No information about how to contact shuttle operator.

S.F. Ferry/Embarcadero BART Station – Somewhat Effective

- Three shuttles provide commute period service Monday – Friday,
- Shuttle stops are hard to find,
- Shuttle schedules not posted with other transit information,
- No information about how to contact shuttle operators.

D/P BART Station – Highly Effective

- Several shuttles operated by the local transit operator with funding by local businesses,
- Shuttle stop clearly marked and in a priority location,
- Shuttle information is provided,
- Shuttle operator information is provided.

Pedestrian Access:

San Rafael Transit Center – Somewhat Effective

- Compact transit center, bus route signs clearly posted,
- All pathways appear to be ADA accessible although signage is limited,
- Inadequate pedestrian loading zone,
- Weak and inconsistent wayfinding within the station,
- No wayfinding to or from adjacent neighborhoods.

S.J. Diridon Station – Effective

- Large transit center, circulation is confusing, most bus route signs are clearly posted,
- All pathways appear to be ADA accessible although signage is limited,
- Adequate and convenient pedestrian loading zone,
- Weak and inconsistent wayfinding within station,
- No wayfinding to or from adjacent neighborhoods.

E.C. Del Norte BART Station – Effective

- Compact transit center, bus route signs are posted but are hard to read and bus loading locations are hard to find,
- All pathways appear to be ADA accessible although signage is hard to find and hard to read for customers in wheelchairs,
- Adequate but hard to find pedestrian loading zone,
- Limited wayfinding exists within the station, however, signs are difficult to find,
- Limited wayfinding to and from adjacent neighborhoods.

S.F. Ferry/Embarcadero BART Station – Effective

- Several city blocks between Ferry terminal and BART/MUNI Station, most bus and trolley route signs are clearly posted although bus loading areas are hard to find,
- All pathways appear to be ADA accessible,
- Adequate but hard to find pedestrian loading zone,
- Wayfinding exists between the station areas, however, given the size of the two facilities the signs are difficult to use and are not bold enough to be fully effective.

D/P BART Station – Effective

- Large transit center, circulation is confusing, most bus route signs are clearly posted,
- All pathways appear to be ADA accessible although signage is limited,
- Adequate but hard to find pedestrian loading zone,
- Weak and inconsistent wayfinding within the station,
- Limited and ineffective wayfinding to and from adjacent neighborhoods.

Bicycle Access and Parking:

San Rafael Transit Center – Effective

- Bicycle parking is fully utilized, in fact more is needed,
- Most buses have bike racks or can easily accommodate bikes,
- Several bikeways exist in downtown, however, wayfinding signs between the bikeways and the transit center are non-existent or inadequate.

S.J. Diridon Station – Highly Effective

- Adequate bicycle parking exists at the station,
- Most buses and nearly all train services have bike racks or can easily accommodate bikes,
- Secured bike lockers are available at the station,
- Several bikeways exist in downtown, however, wayfinding signs between the bikeways and the station are inadequate.

E.C. Del Norte BART Station – Highly Effective

- Adequate bicycle parking exists at the station, in fact there is an over supply of bike racks,
- Most buses have bike racks that easily accommodate bikes,
- Bikes are easily accommodated on most BART trains,
- Secured bike lockers are available at the station,
- Several bikeways exist in the station environs and limited wayfinding signs are posted.

S.F. Ferry/Embarcadero BART Station – Effective

- Bicycle parking exists at the Ferry Terminal, some bike parking is available on the streets or at near-by buildings and a bikestation with adequate parking exists in the BART station.
- Many buses have bike racks that easily accommodate bikes,
- Bikes are easily accommodated on many BART trains and ferries,
- Several bikeways exist in the Terminal/station environs and wayfinding signs between the bikeways and the Terminal/station are inadequate.

D/P BART Station – Highly Effective

- Adequate bicycle parking and secured bike lockers exists at the station,
- Most buses have bike racks that easily accommodate bikes,
- Bikes are easily accommodated on many BART trains,
- Several bikeways exist in the station environs and limited wayfinding signs are posted.

Taxis:

San Rafael Transit Center – Effective

- Taxi services are available at the transit center,
- Some taxi information is posted,
- There is no direct dial taxi phone available or weather protection for taxi loading.

S.J. Diridon Station – Effective

- Taxi services are available at the station,
- Some taxi information is posted,
- There is no direct dial taxi phone available or weather protection.

E.C. Del Norte BART Station – Effective

- Taxi services are available at the station,
- Some taxi information is posted,
- There is no direct dial taxi phone available and minimal weather protection for taxi loading.

S.F. Ferry/Embarcadero BART Station – Effective

- Taxi services are available at the hotel about ¼ mile from the terminal/station,
- Some taxi information is posted,
- There is no direct dial taxi phone.

D/P BART Station – Effective

- Taxi services are available at the station,
- Some taxi information is posted,
- There is no direct dial taxi phone available and no weather protection for taxi loading.

Electric Commute, Guaranteed Ride Home and Station Cars/carsharing:

San Rafael Transit Center – Not Effective

- County ride home program is available to only Marin County employees,
- Services arranged through the Department of Public Works in coordination with Marin County Transit,
- No information at the transit center.

S.J. Diridon Station – Somewhat Effective

- County-wide program is available though Santa Clara County Outreach,
- Contact www.outreach1.org/jbxs/ or call 1-408-436-2865
- No information at the station.

E.C. Del Norte BART Station – Somewhat Effective

- County-wide guaranteed ride home program is available at the station for people who are employed Contra Costa County,
- Contact www.511contracosta.org/ridehome.html or call 1-510-215-3055,
- No information at the station.

S.F. Ferry/Embarcadero BART Station – Effective

- County-wide emergency ride home program is available to employees in San Francisco,
- Contact www.sfenvironment.com or faiz.khan@sfgov.org or call 1-415-355-3734,
- Electric bike and scooter charging is available at the bikestation in the Embarcadero BART Station,
- Two City Carshare vehicles are available at the Golden Gateway building about ½ mile from the terminal/station,
- Six Flexcar vehicles are available at various locations south of Market Street about ½ mile from the terminal/station,
- Four Zipcar vehicles are available at various locations south of Market Street about ½ mile from the terminal/station,
- Limited information about these services is posted at the terminal/station.

D/P BART Station – Somewhat Effective

- Alameda County Guaranteed Ride Home program is available for employees in the vicinity of this hub,
- Contact www.accma.ca.gov/grh/ or call 510-433-0320

Appendix C

BAYCAP Shuttle Survey

BayCAP BART Shuttle Rider Survey: FINDINGS 2/1/05

Introduction

BART and the Bay Area Clean Air Partnership (BayCAP) Shuttle Project designed this survey with funding from the Bay Area Air Quality Management District (BAAQMD). While many of 50+ shuttle programs in the Bay Area conduct their own rider surveys, the BayCAP/BART survey was designed to provide BART planners with a standardized, carefully defined approach to key customer information such as prior mode and home-end BART access.

Seven shuttle programs were surveyed to capture the range of shuttle types that operate to/from BART.

Large Shuttle Programs:

- **Emery-Go-Round** is a large shuttle program linking Emeryville residents, workers and shoppers with the MacArthur BART station. Emery-Go-Round provides day, evening and weekend service. Annual ridership is 850,000 passengers. The shuttle is open to the public and is free. Emery-Go-Round is funded by Emeryville businesses.

- **UCSF** is typical of major trip generators (universities, large medical facilities, etc.) that operate shuttles to BART or Caltrain and between distant campuses or work sites. UCSF shuttles carry more than 1,200,000 riders annually to SF BART stations and between UCSF's San Francisco locations. The shuttle is open to students, faculty, staff, patients and visitors and is free. The UCSF shuttle program is funded by UCSF.

Mid-Sized Shuttle Programs:

- **San Leandro LINKS** is a typical peak-period shuttle providing direct morning and late afternoon/evening service between San Leandro BART and job centers west of I-880. LINKS carries 160,000 riders per year. The shuttle is open to the public and is free. LINKS is funded by San Leandro businesses, BAAQMD and the MTC LIFT program.

- **Bishop Ranch Business Park** runs two shuttles from the Walnut Creek and Dublin/Pleasanton BART stations to its San Ramon location. The shuttles carry 233,000 annual riders on peak-period and midday service. The Bishop Ranch shuttles are open to the public and free to park employees. (Other riders pay $1.50.) The Bishop Ranch shuttle program is funded by participating employers.

- **Sun Microsystems** operates an extensive series of shuttles including service to the Union City and Fremont BART stations. Shuttles include both peak period and midday service and carry more than 100,000 riders annually. Sun's shuttles are open only to its employees and they are free. Sun's shuttle program is funded by the company.

Small Shuttle Programs:

- The **West Berkeley Shuttle** connects the Ashby BART station with employers in West Berkeley. The shuttle carries 25,000 passengers annually, is open to the public and is free to employees of participating employers. (Other riders pay 50¢). The West Berkeley Shuttle is funded by participating employers and the City of Berkeley.

- **Mervyn's** operates two shuttles from the Hayward and Castro Valley BART stations to its Hayward headquarters. The shuttles operate during the morning and evening peaks and carry 25,000 riders each year. The shuttles are open to the public and they are free. Mervyn's shuttle program is funded by the company.

An important group of successful shuttles-to-BART in northern San Mateo County, operated by **Samtrans** and local employers, was not included in this survey to avoid a possible conflicts with a recent Samtrans rider survey. An excerpt of the Samtrans results is attached.

The surveys were distributed to riders as they were boarding shuttle vehicles at BART stations for weekday AM trips to jobs, schools, etc. (While some of the shuttles in this survey also pickup residents on their return trip to BART, this survey focused solely on BART-to-shuttle-to-work/school trips.) It took most riders 4-5 minutes to complete the survey. The survey was conducted in late October and November. The survey instrument is attached.

Table 1
Survey Group

Shuttle	BART Station	Number	Percent
Emery-Go-Round (Emeryville)	MacArthur	117	24%
UCSF	16th St Mission (SF) 24th St. Mission (SF)	52	11%
San Leandro Links	San Leandro	62	12%
Bishop Ranch (San Ramon)	Walnut Creek Dublin/Pleasanton	83	17%
Sun (Newark)	Union City Fremont	52	11%
West Berkeley	Ashby	77	16%
Mervyn's (Hayward)	Hayward Castro Valley	42	9%
Total		**485**	**100%**

Table 2
What is your DESTINATION for this shuttle trip?

	Number	Percent
Work	458	95%
School	20	4%
Shopping, event, etc.	1	< 1%
Other	4	1%
Total	**483**	**100%**

Note: The survey was designed to target AM trips from BART to work, school, etc. Some of these shuttles also transport residents TO BART.

Table 3
How did you get to the SHUTTLE for this trip?

	Number	Percent
Took BART to the shuttle	385	80%
Walked all the way to the shuttle stop	27	6%
Took a bus or Muni Metro to the shuttle stop	25	5%
Drove alone to the shuttle stop	20	4%
Dropped off (someone else drove me here in a car)	17	4%
Bicycled to the shuttle stop	3	<1%
Carpooled to the shuttle stop (and parked car here)	1	<1%
Total	**478**	**100%**

Table 4
How did you get to the SHUTTLE for this trip? —BY SURVEY GROUP

	Overall	Emery	UCSF	LINKS	BR	Sun	WB	Mervyn's
BART	81%	87%	94%	87%	61%	35%	97%	100%
Walked	6%	8%	6%	2%	10%	8%	3%	-
Bus or Muni	5%	4%	-	12%	14%	6%	-	-
Drove Alone	4%	-	-	-	6%	29%	-	-
Dropped Off	4%	1%	-	-	9%	18%	-	-
Bicycled	1%	1%	-	-	1%	2%	-	-
Carpooled	<1%	-	-	-	-	2%	-	-
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	-

Table 5

At which BART station did you enter and exit to get to the shuttle for this trip?

Overall – ENTRANCE station

	Number	Percent
Embarcadero (SF)	26	6.9%
Pittsburg Bay Point	21	5.6%
Powell (SF)	19	5.0%
Fremont	18	4.8%
Civic Center (SF)	16	4.2%
Fruitvale (Oak)	16	4.2%
MacArthur (Oak)	15	4.0%
Montgomery (SF)	15	4.0%
Bay Fair (San Leandro)	14	3.7%
Concord	14	3.7%
Daly City	14	3.7%
Pleasant Hill	14	3.7%
Rockridge (Oak)	13	3.4%
24th St. Mission (SF)	12	3.2%
Walnut Creek	12	3.2%
El Cerrito Del Norte	11	2.9%
16th St. Mission (SF)	9	2.4%
San Leandro	9	2.4%
Dublin/Pleasanton	8	2.1%
Hayward	8	2.1%
19th Oakland	7	1.9%
Ashby (Berkeley)	7	1.9%
Colma	7	1.9%
Downtown Berkeley	7	1.9%
Glen Park (SF)	7	1.9%
South Hayward	7	1.9%
Castro Valley	6	1.6%
Union City	6	1.6%
South SF	5	1.3%
12th St. City Center (Oak)	4	1.1%
Millbrae	4	1.1%
Orinda	4	1.1%
Richmond	4	1.1%
El Cerrito Plaza	3	.8%
Lafayette	3	.8%
Lake Merritt (Oak)	3	.8%
North Concord Martinez	3	.8%
Coliseum (Oak)	2	.5%
San Bruno	2	.5%
Balboa Park (SF)	1	.3%
North Berkeley	1	.3%
West Oakland	1	.3%
Total	**378**	**100%**

Table 6

At which BART station did you enter and exit to get to the shuttle for this trip?

Overall – EXIT station

	Number	Percent
MacArthur (Oak)	97	26%
Ashby (Berkeley)	72	19%
San Leandro	52	14%
Walnut Creek	36	10%
16th Street Mission (SF)	35	9%
Hayward	35	9%
Dublin/Pleasanton	17	5%
Union City	13	3%
24th Street Mission (SF)	10	3%
Fremont	6	2%
Castro Valley	5	1%
Total	**378**	**100%**

Table 7

How did you get to the BART STATION you entered?

	Number	Percent
Walked all the way to BART	135	33%
Bus or Muni Metro	106	26%
Drove alone	84	21%
Dropped off (someone else drove me in a car)	50	12%
Carpooled	17	4%
Bicycle	7	2%
Taxi	5	1%
Motorcycle/moped	2	1%
Total	**406**	**100%**

Table 8

If you drove or carpooled to BART, where did you park your car?

	Number	Percent
In BART station parking lot (daily parking)	81	70%
Off-site parking or on street	19	17%
In BART station parking lot (monthly reserved)	10	9%
In BART station parking lot (carpool parking)	5	4%
Total	**115**	**100%**

Table 9:
How did you get to the BART STATION you entered — BY ENTRY STATION

	#	Drove Solo	Carpooled	Walked	Bus/Muni	Taxi	Cycled	Biked	Dropped off
Embarcadero (SF)	26	-	4%	28%	56%	-	-	-	12%
Pittsburg BP	21	25%	5%	10%	30%	5%	0%	0%	25%
Powell (SF)	19	0%	0%	68%	32%	0%	0%	0%	0%
Fremont	18	53%	-	18%	12%	-	-	-	18%
Civic Center (SF)	16	-	-	25%	63%	6%	6%	-	-
Fruitvale (Oak)	16	19%	6%	31%	13%	-	-	13%	19%
MacArthur (Oak)	15	7%	-	36%	43%	7%	-	7%	-
Montgomery (SF)	15	-	-	20%	80%	-	-	-	-
Bay Fair (San Leandro)	14	21%	14%	36%	21%	-	-	-	7%
Concord	14	38%	15%	8%	8%	-	-	8%	23%
Daly City	14	23%	-	31%	38%	-	-	-	8%
Pleasant Hill	14	7%	7%	50%	0%	0%	0%	7%	29%
Rockridge (Oak)	13	33%	0%	42%	8%	0%	0%	0%	17%
24th St. Mission (SF)	12	-	-	100%	-	-	-	-	-
Walnut Creek	12	33%	8%	8%	8%	0%	8%	0%	33%
El Cerrito DN	11	9%	9%	9%	64%	-	-	-	9%
16th St. Mission (SF)	9	56%	-	44%	-	-	-	-	-
San Leandro	9	33%	11%	11%	11%	0%	0%	11%	22%
Dublin/Pleasanton	8	50%	-	-	25%	-	-	-	25%
Hayward	8	38%	-	38%	-	-	-	-	25%
19th St. Oakland	7	-	-	71%	14%	-	-	-	14%
Ashby (Berkeley)	7	14%	14%	43%	29%	-	-	-	-
Colma	7	14%	14%	14%	43%	-	-	-	14%
Downtown Berkeley	7	-	-	86%	14%	-	-	-	-
Glen Park (SF)	7	-	14%	29%	29%	-	-	14%	14%
South Hayward	7	29%	14%	14%	14%	14%	0%	0%	14%
Castro Valley	6	33%	-	33%	17%	-	-	-	17%
Union City	6	33%	0%	33%	17%	0%	0%	0%	17%
South SF	5	40%	0%	40%	0%	0%	0%	0%	20%
12th St. Oakland	4	-	-	50%	50%	-	-	-	-
Millbrae	4	75%	-	-	25%	-	-	-	-
Orinda	4	50%	0%	25%	0%	0%	0%	0%	25%
Richmond	4	67%	0%	33%	0%	0%	0%	0%	0%
El Cerrito Plaza	3	33%	-	67%	-	-	-	-	-
Lafayette	3	33%	-	67%	-	-	-	-	-
Lake Merritt (Oak)	3	-	-	100%	-	-	-	-	-
N Concord/Martinez	3	33%	33%	0%	0%	0%	0%	0%	33%
Coliseum (Oak)	2	-	-	50%	50%	-	-	-	-
San Bruno	2	50%	0%	50%	0%	0%	0%	0%	0%
Balboa Park (SF)	1	100%	-	-	-	-	-	-	-
North Berkeley	1	100%	-	-	-	-	-	-	-
West Oakland	1	100%	0%	0%	0%	0%	0%	0%	0%
Total		21%	4%	33%	26%	1%	1%	2%	12%

Table 10
How far is it from your home to the BART station you entered?

	Number	Percent
Less than one mile	146	36%
One to three miles	127	31%
Three to five miles	55	13%
More than five miles	85	21%
Total	**413**	**100%**

Table 11

How did you get to the BART STATION you entered — BY DISTANCE TO STATION

	Number	< one mile	1 – 3 miles	3 – 5 miles	= >5 miles	Total
Drove alone	84	7%	35%	20%	38%	100%
Walked	135	75%	23%	2%	1%	100%
Bus or Muni Metro	106	14%	34%	19%	33%	100%
Dropped off	50	22%	42%	20%	16%	100%
Carpooled	17	6%	25%	19%	50%	100%
Taxi	5	25%	50%	25%	0%	100%
Bicycle	7	43%	29%	29%	0%	100%
Motorcycle/moped	2	100%	0%	0%	0%	100%
Total	**406**	**35%**	**31%**	**14%**	**21%**	**100%**

Table 12

How did you get to the BART STATION you entered — BY DISTANCE TO STATION

	Number	< one mile	1 – 3 miles	3 – 5 miles	= >5 miles
Drove alone	84	4%	23%	30%	38%
Walked	135	72%	25%	5%	2%
Bus or Muni Metro	106	11%	29%	36%	41%
Dropped off	50	8%	17%	18%	9%
Carpooled	17	1%	3%	6%	10%
Taxi	5	1%	2%	2%	0%
Bicycle	7	2%	2%	4%	0%
Motorcycle/moped	2	1%	0%	0%	0%
Total	**406**	**100%**	**100%**	**100%**	**100%**

Table 13

How long have you been commuting to your current work/school location?

	Number	Percent
Six months or less	104	22%
More than six months, but less than one year	65	14%
One to three years	141	30%
More than three years	161	34%
Total	**471**	**100%**

Table 14

How long have you been using this BART/shuttle combination for your commute?

	Number	Percent
Six months or less	127	27%
More than six months, but less than one year	74	16%
One to three years	165	35%
More than three years	103	22%
Total	**469**	**100%**

Table 15

When did you start using this shuttle?

	Number	Percent
When I started to go to work/school at this location	264	57%
When I decided to try a different way to get to work/school	140	30%
When I moved my home to a new location	60	13%
Total	**464**	**100%**

Table 16

Before you started riding the shuttle, how did you usually make this commute?

Among only those "DECIDED TO TRY A DIFFERENT WAY" (NEW COMMUTES)

(Answer #2 in Table 15)

	Number	Overall
Drove alone all the way	86	61%
Took BART plus another type of public transit	17	12%
Took a bus or other type of public transit all the way	13	9%
Carpooled or vanpooled	13	9%
Got dropped off by car	5	4%
Took BART then walked/biked	2	1%
Walked or bicycled all the way	2	1%
Have always used BART/shuttle	2	1%
Total	**140**	**100%**

Table 17
Which one of the following statements best applies to your commute?

	Number	Percent
If it weren't for the shuttle, I'd drive to work/school	208	46%
If it weren't for the shuttle, I'd still take BART, and then (see below)	177	39%
It weren't for the shuttle, I'd ...(OPEN-ENDED)*	70	15%
Total	**455**	**100%**

Taking BART and another option?

	Number	Percent
Bus**	83	75%
Walk	22	20%
Bike	22	5%
Total	**111**	**100%**

** Typical responses included "quit my job," "find a job closer to home," "drive some, BART some"*

*** Figure is likely too high due to poor survey wording. Unlike the Samtrans shuttle survey which requires respondents to name a specific bus route they would take in place of the shuttle, the BayCAP survey allowed riders to simply say "bus." Since regular bus service is infrequent in most of these shuttle service areas and less-direct in all of them, many of these "bus" respondents would have infeasible BART/bus commute.*

Table 18
Which one of the following statements best applies to your commute? BY SURVEY GROUP

	If it weren't for the shuttle....		
	I'd drive to work/school	I'd still take BART, and then walk, bike or bus	I'd...
Emery-Go-Round	41%	39%	20%
UCSF	14%	66%	20%
San Leandro LINKS	29%	66%	5%
Bishop Ranch	55%	21%	24%
Sun Microsystems	80%	8%	12%
West Berkeley	55%	37%	8%
Mervyns	44%	42%	15%

Shuttle Rider Survey

Please take a few minutes to complete this survey to help BART, the Air District and your shuttle operator to understand more about shuttle riders. We thank you for your participation.

1. What is your destination for this shuttle trip?
____1 Work
____2 School
____3 Hospital, Doctor, Dentist
____4 Shopping, Sports event, Hotel, Restaurant, Performance
____5 Visiting with friends/family
____6 Other: ________________________

2. How did you get to the shuttle for this trip? (select only one)
____1 Took BART to the shuttle stop (GO TO QUESTION 3)
____2 Took a bus or Muni Metro to the shuttle stop (SKIP TO QUESTION 7 ON BACK)
____3 Bicycled to the shuttle stop (SKIP TO QUESTION 7 ON BACK)
____4 Walked all the way to the shuttle stop (SKIP TO QUESTION 7 ON BACK)
____5 Drove alone to the shuttle stop (SKIP TO QUESTION 7 ON BACK)
____6 Carpooled to the shuttle stop (and parked car here) (SKIP TO QUESTION 7 ON BACK)
____7 Dropped off (someone else drove me here in a car) (SKIP TO QUESTION 7 ON BACK)

3. At which BART station did you enter and exit to get to the shuttle for this trip?
BART station entered: ______________________________
BART station exited: ______________________________

4. How did you get to the BART station you entered? (select one)
____1 Drove alone (GO TO QUESTION 5)
____2 Carpooled (GO TO QUESTION 5)
____3 Walked all the way to BART (SKIP TO QUESTION 6)
____4 Bus or Muni Metro (SKIP TO QUESTION 6)
____5 Taxi (SKIP TO QUESTION 6)
____6 Motorcycle/moped (SKIP TO QUESTION 6)
____7 Bicycle SKIP TO (SKIP TO QUESTION 6)
____8 Dropped off (someone else drove me here in a car) (SKIP TO QUESTION 6)

5. IF YOU DROVE OR CARPOOLED TO BART: Where did you park your car?
____1 In BART station parking lot (monthly reserved)
____2 In BART station parking lot (daily parking)
____3 In BART station parking lot (carpool parking)
____4 Off-site parking or on street

6. How far is it from your home to the BARTstation you entered?

____1 Less than one mile
____2 One to three miles
____3 Three to five miles
____4 More than five miles

The last few questions are for those who use this shuttle to commute to work or school.

7. How long have you been commuting to your current work/school location?

____1 Six months or less
____2 More than six months, but less than one year
____3 One to three years
____4 More than three years

8. How long have you been using this shuttle for your commute?

____1 Six months or less
____2 More than six months, but less than one year
____3 One to three years
____4 More than three years

9. When did you start using this shuttle? (pick one)

____1 When I decided to try a different way to get to work/school **GO TO QUESTION 10**
____2 When I moved my home to a new location **SKIP TO QUESTION 11**
____3 When I started to go to work/school at this location (always used shuttle) **SKIP TO QUESTION 11**

10. Before you started riding the shuttle, how did you usually make THIS commute? (from your current home to your current work/school location) (pick one)

____1 Drove alone all the way to work/school
____2 Took a bus or other type of public transit all the way to work/school
____3 Took BART plus another type of public transit (bus, Muni Metro, etc.)
____4 Took BART then walked/biked to work/school
____5 Carpooled or vanpooled
____6 Got dropped off by car
____7 Walked or bicycled all the way to work/school
____8 Have always used BART/shuttle

11. Which one of the following statements best applies to your commute:

____1 If it weren't for the shuttle, I'd drive to work/school
____2 If it weren't for the shuttle, I'd still take BART and then **(CIRCLE ONE)** walk bike bus to work/school
____3 It weren't for the shuttle, I'd ________________________

We are always trying to improve shuttle services. Do you have any suggestions for improving your BART/shuttle commute?

Thank you for your participation.

SAMTRANS 2004 BART SHUTTLE SURVEY (selected results)

Do you ride BART to the shuttle?

Yes	86%
No	14%

Before using this shuttle, how did you usually get from your residence to your current work location?

Have always taken this shuttle	48%
Drove alone	37%
Dropped off	4%
Bus	3%
BART only	2%
Carpool	2%
Other	3%

SAMTRANS 2002 BART SHUTTLE SURVEY (selected results)

Do you ride BART to the shuttle?

Yes	79%
No	21%

Before using this shuttle, how did you usually get from your residence to your current work location?

Have always taken this shuttle	44%
Drove alone	32%
Dropped off	4%
Bus	7%
BART only	2%
Carpool	5%
Other	6%